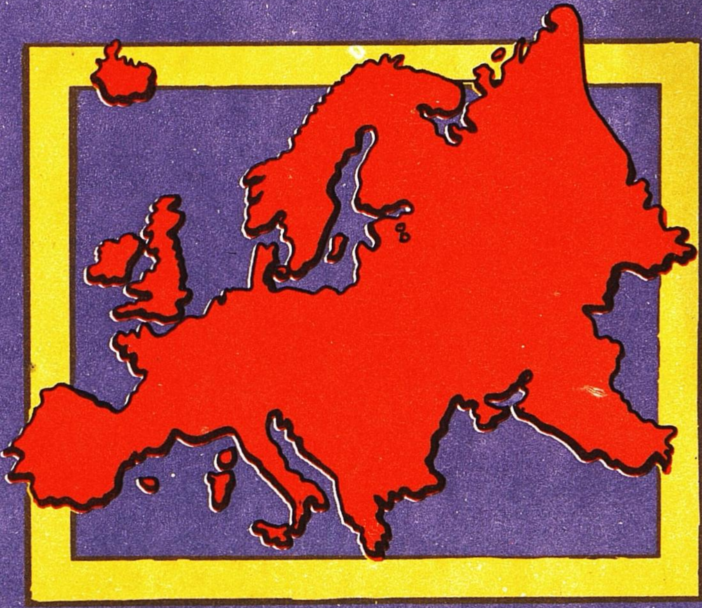

9

GEOGRAPHY

Tamil Nadu Textbook Society

GEOGRAPHY

STANDARD IX

Untouchability is a sin
Untouchability is a crime
Untouchability is inhuman

Tamil Nadu Textbook Society
MADRAS

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All the value of education rests in respect for the physical, intellectual and moral will of the child. Just as in science no demonstration is possible save by facts, just so there is no real education save that which is exempt from all dogmatism, which leaves to the child itself the direction of its effort and confines itself to the seconding of that effort.

FRANCISCO FERRER

PART I

PHYSICAL GEOGRAPHY

1. THE LONGITUDES—TIME

1. The Latitudes and the Longitudes

We live on the Earth which is a planet in the solar system. It is the only planet most suitable for all living beings. It is not flat as we imagine but spherical. Let us study here about the earth.

To study properly the conditions of life in different parts of the earth, we have to adopt some artificial methods of divisions. If you carefully look at the model of the earth, the globe, you will see a number of lines, some vertical and some horizontal. These lines are purely imaginary and not drawn actually on the earth. They serve as a convenient device to locate places and their timings.

(a) The Parallels of Latitudes

The imaginary lines drawn on the globe from east to west are known as the latitudes. It is essential to fix the mid point as the earth has no edge or natural points to start with. For this purpose the North and the South Poles are taken as the starting points for drawing the parallels of latitudes.

The Equator, the centre of the latitudes, is fixed half-way between the two poles. If we go from Equator to the North or to South Pole, we will cover a quarter of the whole circle. We mark this into ninety divisions each forming one degree.

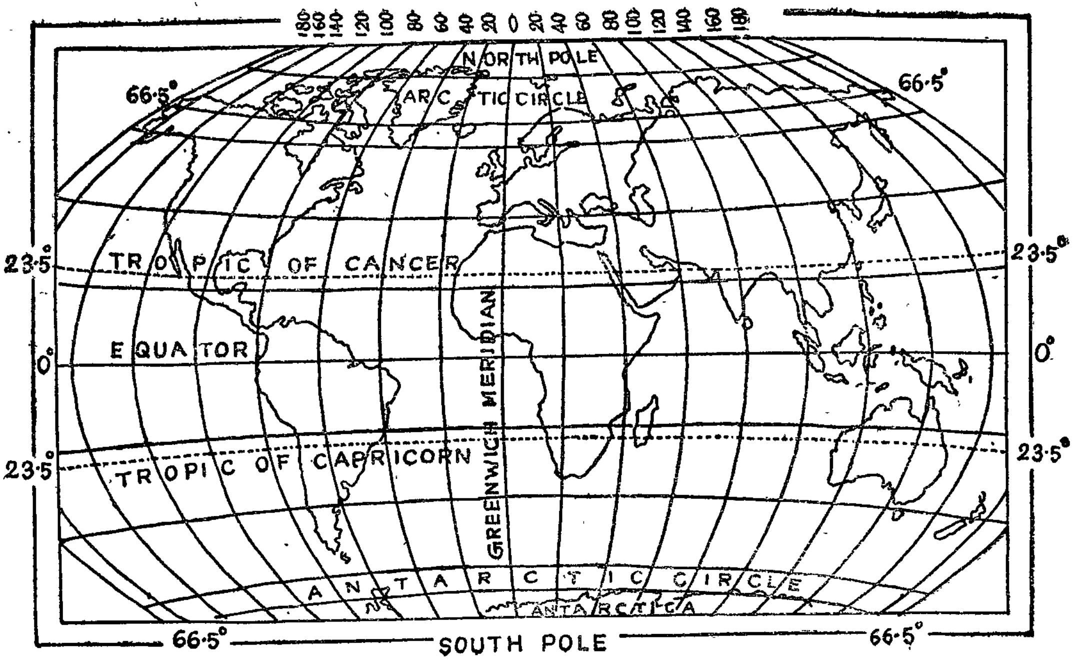

Fig. 1 The World : Latitudes and Longitudes

The Equator divides the earth into two equal halves namely the Northern and Southern Hemispheres. The Equator is the largest circle drawn on the earth. Its circumference is about 40,069 k. m. Its plane is perpendicular to the earth's axis. On either side of the Equator, parallel lines are drawn known as parallels of latitudes. These parallels of circle get smaller and smaller as we go towards the poles. To the north of the Equator they are known as North latitudes and to the south as South latitudes. The latitude of a place is defined in degrees. The degrees of latitude are roughly the same length, over the whole world. The Equator is marked 0°. The average length of 1° latitude is about 111 k. m. at the equator. Some important parallels are :

1. 23.5° N. Tropic of Cancer
2. 23.5° S. Tropic of Capricorn
3. 66.5° N. The Arctic Circle
4. 66.5° S. The Antarctic Circle
5. 90° N. The North Pole
6. 90° S. The South Pole

The sun is overhead on the Tropic of Cancer on June 21 and on the Tropic of Capricorn on December 22. It is to be remembered that the sun never shines vertically overhead beyond the Tropics though it appears to be so within the Tropics.

(b) The Longitudes

The imaginary lines drawn on the earth from south to north are known as Longitudes. They are 360 in number. These lines are known as the meridians of longitudes. Meridian means noon. Every meridian passes under the sun once in 24 hours.

How should we number the meridians of longitude ? There lies the difficulty because the longitudes have equal lengths and they pass through the poles. To overcome this, a point should be fixed. At Greenwich on the Thames, east of London in England, there was a famous observatory where the stars and objects of the sky had long been studied. So the longitude which passes through Greenwhich is fixed as the mid point. It is called the 0° meridian. Then we number the degrees east and west of Greenwich till we reach half way round the earth and the line 180° east of Greenwich is the same as the 180° west.

The longitude of a particular place is measured in degrees as its distance east or west of the Prime Meridian. The longitude of a place is followed by the letter E or W. For example if we want to state the longitude of Jabalpur, we must say that its longitude is 80° E and so also in the case of San Francisco 120° W.

2. Local Time

We know that the days and nights are caused by the rotation of the earth. It seems as if the sun rises in the east and sets in the west. But it is not true. It is the earth that moves from west to east. The fact that we should bear in mind is that the time of sunrise or noon or sunset can never be the same at all places and the time differs from place to place.

The earth takes 24 hours for one rotation on its own axis, that is it takes 24 hours to move 360°. Therefore the time taken for 1° of longitude is 4 minutes $\frac{(24 \times 60)}{360}$. When the Meridian of Greenwich has the sun at the highest point in the sky all the places on this meridian-0°, will have noon (mid-day). Thus each meridian passes under the sun only once in a day. This time is known as the Local Time.

The local time differs by one hour for every 15°. For example if it is 12 noon at Greenwich it would be 11 a. m. at 15° W and 1 p. m. at 15°E. Similarly it will be midnight at 180°. Allahabad is situated on 82·5°E. and hence its local time is 5-30 hours ahead of Greenwich time. It is clear that we should add 4 minutes for every degree when we go towards east and the same should be deducted when we go towards west. To put it briefly as we proceed eastwards the time increases and as we proceed westwards the time decreases. We must remember that the sun is never overhead beyond the Tropic Zones on either side of the Equator. At the poles the sun, whenever it is seen is always at the horizon.

3. Standard Time

Now, you know that the local time is bound to differ from place to place. If you calculate different times on different longitudes what would happen ? There would be confusion. For example if it is 12 noon at Calcutta (88° 15'E) it will be 10-59 a. m. at Bombay (73°E). Similarly if we follow various local times in a country it will be difficult to prepare a time table for train services, radio programmes, post and telegraphs etc. To overcome these difficulties each country has devised a common time based on a particular longitude which runs at the middle of the country. This common time is known as the Standard Time for that country. In India, longitude 82·5°E is taken as the Standard Meridian and the local time on this meridian is treated as the Standard Time for our country. It is known as the Indian Standard Time (I. S. T.). It is 5-30 hours ahead of Greenwich Mean Time. If it is 12 noon at Greenwich it is 5-30 p. m. in India. In countries like U. S. A. and Canada there cannot be one standard time because the meridians are close. The USA follows four standard times based on 75°W, 90°W, 105°W and 120°W. Canada follows five standard times to start with 60°W and the rest as that of the USA. The whole world is divided into 24 Time Zones.

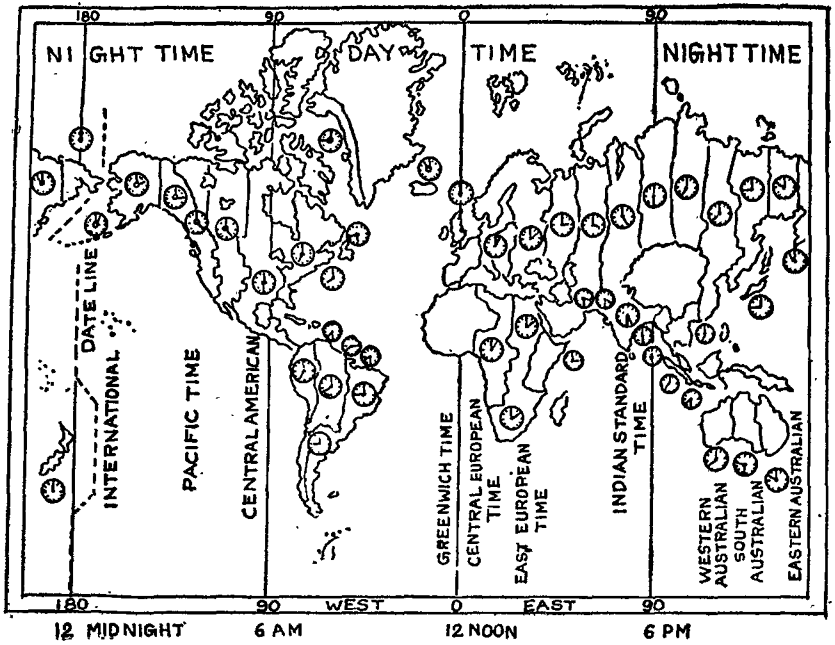

Fig. 2. The World—Time Zones.

4. The International Date Line

You have just learnt that as we proceed eastward, we add one hour for every 15° and we drop one hour for every 15° as we proceed westward from Greenwich. If a ship sails 360° east it will gain one full day of 24 hours and the ship which sails 360°West will lose one full day. This difference will lead to confusion again as in the case of local times. Look at the figure given below.

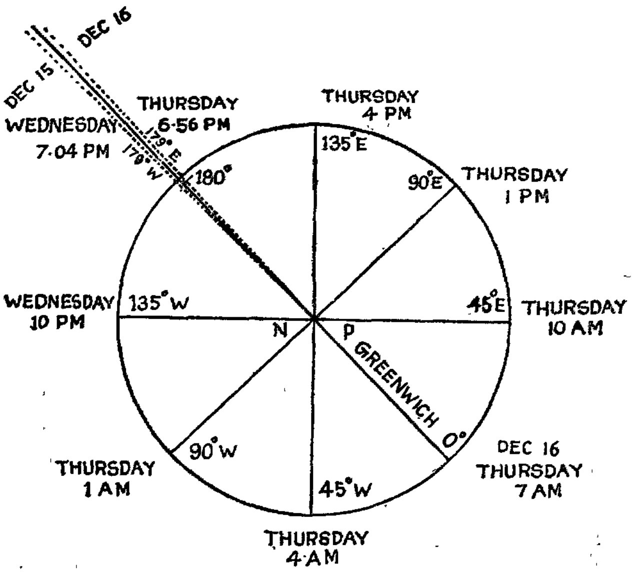

Fig. 3.
International Date Line

If it is 7 p. m. on Thursday, December 16 at Greenwich, at 180°E it will be 7 p. m. and at 180°W it will be 7 p.m. of the previous day that is Wednesday. To get rid of this confusion the nations of the world have adopted an International Date Line drawn at the 180° Meridian running exactly opposite to the Prime Meridian on the other side of the earth. When a ship

crosses this meridian it has to adjust the date The west-ward bound vessels skip a day from the calendar and eastward bound vessels add a day by giving the same date for two consecutive days.

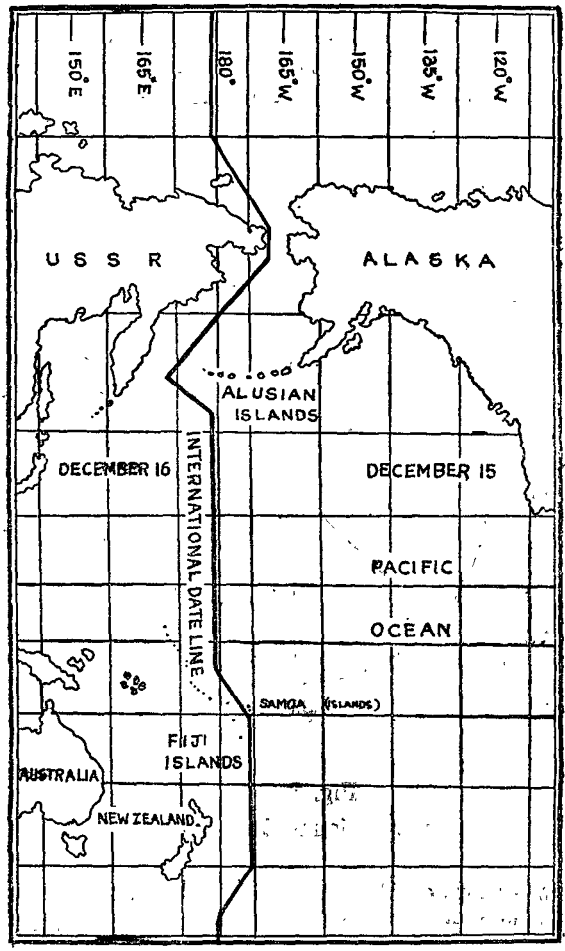

Fig. 4.
The Date Line deviates in places from 180° so as to avoid cutting through groups of islands like the Fiji Islands.

The International Date Line at 180° Meridian runs through the mid-pacific where there are only a few islands and where the change of date will cause inconvenience to the least number of people. Actually the Date Line deviates to the east to avoid cutting through the group of Fiji islands. When it is Monday for the Fijians it is Sunday for the Samoans.

The sailors calculate the longitude of the place where the ship sails with the help of the chronometer which always shows the Greenwich Mean Time. For example, the local time in the ship is 11 a.m. and the chronometer time is 6 a.m. The difference is by 5 hours. So, the longitude of the place will be 75°E (5×15°).

QUESTIONS

I. Choose the best answer.

1. The largest of the latitudes is

(a) the Tropic of Cancer, (b) the Tropic of Capricorn,
(c) the Equator, (d) none said above.

2. The standard time of our country is based on

(a) 90°S, (b) 23·5°N, (c) 88°E, (d) 82·5°E.

II. Complete the following sentences.

1. The only planet most suitable for all living beings is——.
2. The time increases when we go towards—— of ——.
3. The——is the Prime Meridian.

III. Write short answers.

1. What are longitudes ?
2. What is meant by Standard Time ?
3. What is the International Date Line ?
4. What is Chronometer ?
5. Calculate the time in our country if it is 9 a. m. at Greenwich.

IV. Write long answers.

1. What are the differences between the latitudes and the longitudes ?
2. Describe how the Standard Time is important for every country.

Practical

1. On an outline map of the world mark the important latitudes and learn the continents through which they pass.
2. Prepare a Time Zone (24) chart and calculate the time at each zone.

2. THE EARTH'S CRUST

Composition and Structure

The planet, earth is our home. It is a unique planet because it contains life. Land, Water and Air are the three realms or domains of the earth.

The earth also contains a lot of natural sceneries. The Nature undergoes changes. The rivers change their courses. New lakes are formed even on the mountains by the glaciers. Where are Danushkoti and Poompuhar to-day? They are under the sea. Only one shore temple exists in Mamallapuram and the others are taken in by the sea. Have you ever heard of the sand dunes in the deserts? How do they change from place to place? But these changes are not the same throughout the world.

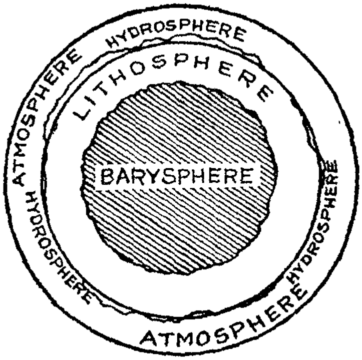

Fig. 5.
Constitution of Earth

Besides these, there are some other changes which are caused by the volcanoes, earthquakes, rifts and drifts.

Lithosphere

The term Lithosphere means the crust or the outer skin of the earth. The earth includes not only the land mass where we live in but also the watery area called oceans. The domain of the waters on the earth's surface is known as the Hydrosphere whereas the air which surrounds the earth is known as the Atmosphere.

The atmosphere extends upto a heigtht of 80 k. m. The atmospheric air is a mixture of 78% nitrogen, 21% of oxygen and the rest 1% of the other gases. The upper part of it ranging from 20 k.m. to 55 k.m. of height is known as Stratosphere; whereas the lower part upto a height of 20 k.m is known as Troposphere. Most of the water vapour and dust particles are confined to this part where the weather phenomena occur predominantly.

The earth's crust is composed of hard and strong rocks like granite and slate or soft rocks like sand, clay, mud and chalk. Rocks contain minerals and coal.

Classification of rocks

Generally we classify rocks into three main groups. They are : 1. Igneous rocks, 2. Sedimentary rocks and 3. Metamorphic rocks

1. Igneous Rocks

Igneous rocks mean 'fiery rocks'. They are caused by the interior heat of the earth. They are very ancient and mostly formed out of the liquid molten material known as 'magma'. This magma from the hot interior of the earth is poured out on the surface due to pressure and heat through vents or fissures and spread over a vast area to form rocks. These rocks are called Igneous or Volcanic rocks. Basalt is the common example of igneous rocks.

Sometimes the magma becomes solid under the ground before it reaches the surface. These are known as the 'Deep seated or Plutonic' rocks. The crystals in these rocks are very dense. Granite is a very good example of this kind. Such rocks are usually hard and free from weathering.

2. Sedimentary Rocks

These are formed from the successive deposition of sediments by the sea, rivers, lakes, glaciers and wind. They are found in layered structure. Sedimentary rocks are soft and elastic. So they undergo violent changes in shape. Sand stone and limestone are common examples of this kind. Sedimentary rocks contain fossils-the hard remains of animals. They also contain mineral oil in some places. Coral is also obtained from these rocks.

3. Metamorphic rocks

Igneous rocks and sedimentary rocks are different in texture, structure and chemical composition. Heat causes the minerals to recrystallize into metamorphic rocks. At times this modification is effected by pressure during extensive earth movements. For example granite (an igneous rock) is metamorphosed to gneiss and limestone to marble. Shale becomes slate.

Structure of the Earth

The Core : The inner core of the earth is known as Barysphere. It is composed of heavy metals like iron and nickel. It extends to a radius of 3476 k.m. from the centre of the earth. The temperature of the core ranges from 1927°C to 4150°C.

The Mantle : The mantle lies above the inner core (Barysphere) to a height of 2896 k.m. It is in a semi fluid stage. This part consists of iron, magnesium and silica.

The Crust : It is the thinnest outer part of the earth consisting of two layers called Sial (upper layer) and Sima (lower layer). Its thickness ranges from 16 to 32 k. m. It

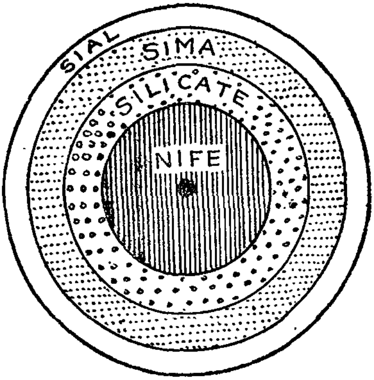

Fig. 6.
The cross section of Earth's Crust

consists of rock containing diffierent minerals such as silica, aluminium and magnesium.

Earth movements

Magma, the hot molten material between the earth's core and outer crust is in a fluid state. This zone is known as the transitional zone. Great changes occur here and the effects are often felt on the surface of the earth due to forces such as compression, tension and folding. The earth's crust becomes unstable. When one part is lifted the other sinks. Thus, the Himalayas were formed due to the earth movements. At times, land masses submerge under the sea Such changes on the surface of the earth are going on for ever.

Fold Mountains

You know some areas of the earth's crust are thin and weak. The places where the crust is not hard and firm are subjected to great pressure from below to form an arch or splinter and fall into heaps. When a place is pressed from two sides a number of parallel folds and troughs are formed.

The arches are known as anticlines and troughs as synclines. These form into fold mountains such as the Alps, the Rockies, the Himalayas and the Andes. Fossils of animals are found on these mountains as they have risen from under the sea.

Zones of Weakness

Some parts of the earth come under the unstable zone due to weakness. Because of this weakness great changes take place. Japan, New Zealand, Peru, Chile, Mexico, Bihar, Assam, Cutch in India, Italy and the East Indies are some of the regions in the weak belts.

Faulting

In the weak zones, the liquid magma from under the earth exerts pressure on the earth's crust. The earth's crust in these areas cracks. This is called the Faulting of the earth. The faulting occurs very often in some places. The land slips down on one side and the other is pushed up. In between the two parallel cracks, the land rises up forming a table land or block mountain. The Vindhyas of India and the central mountains of France are examples of block mountains.

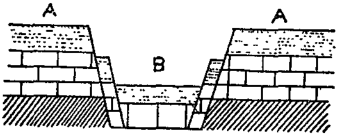

Fig. 7.
Diagramatic Section of a Crust Block
'A' Block mountains 'B' Rift Valley

At times when the land slips down between two parallel cracks, a valley is formed. This valley is called a Rift Valley. The Rhine Rift Valley and the Great Rift Valley in Africa are examples for this.

Drift

The rotary movements of the earth push the continents towards or away from one another. This movement is very slow. This is known as Continental drift. It is said that millions of years ago the whole landmass was one and later split and drifted into continents.

Earthquakes

The movement of the molten rock deep down in the earth's crust causes the surface to shake. We feel 'an earthquake' at such times. Some earthquakes have connection with volcanic eruptions. Earthquakes usually occur as a result of the underground movement which we cannot see but feel. Seismograph is an instrument which records and measures the intensity and place of the shocks.

The earthquake shocks last only for a few seconds. They pass lightly if they are mild and cause great damage if they are severe. Some earthquakes are actually connected with cracks, known as faults. The faulting moves up the rocks on one side and slips down on the other side leaving a small cliff. The earthquakes occur very often in Burma, the East Indies, Japan, New Zealand, Peru, Chile, Quetta (in Pakistan) and Sicily. Even in our own country it occurs in Bihar and Assam but not very often.

The earthquakes cause great damage and terrible suffering. In some areas land becomes submerged in sea. In some other areas the land is elevated above the sea level. If the quake occurs in the mid-sea, great waves are thrown up. These waves cause destruction along the shores. If the quakes occur in the landmass, the damage to the lives and crops is greater and sometimes beyond our estimation.

Volcanoes

How are volcanoes caused? The molten liquid mass or magma in the earth's interior is accumulated and this builds up tremendous pressure. It moves with steam and gases.

When it reaches the weak line, it is pushed up to the surface with great pressure through a pipe or vent. Thus, the thrown out materials heap into a mountain known as volcano.

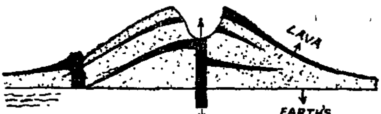

Fig. 8.
Cross Section of a Volcano

There are two kinds of volcanic eruptions. They are (a) Central eruption and (b) Fissure eruption.

Central eruptions

A volcanic eruption is one in which gas, ash, magma and fragmentary rock materials from within the earth's crust are extruded from a central vent Volcanic cones develop from the material ejected during such eruptions.

Fissure eruptions

In this kind of volcanic eruptions, the magma, ash, gas and rock materials are drawn out from within the earth's crust through a fissure or a line of fissures. A fissure eruption is less common than the first one. In this, lava is brought out and spread. Lava contains acid and silica. Some parts of the Deccan plateau are spread out with this kind of lava soil.

Again we can divide the volcanoes into two groups namely 'active' and 'extinct' volcanoes. The first group includes Vesuvius in Italy and Fujiyama in Japan. They have life (active) and erupt very often. The second group includes Mt. Aconcagua, Cotapoxi in the Andes. They have stopped erupting (extinct) totally.

As already learnt, gases, molten rocks and ash, nitrogen, chlorine, carbon-di-oxide and sulphur-di-oxide are brought out from the earth's crust when a volcano erupts.

The Fujiyama in Japan, the Krakatoa in Java, Mt. Pele in West Indies, Mount Etna in Sicily, Kilimanjaro in Africa and Chimborazo and Cotapoxi in the Andes of South America are well known volcanoes of the world.

Geysers and Hot springs

The geysers or hot springs or fountains are caused by earthquakes and volcanoes. The underground heated water is boiled into steam. When the pressure is great it gushes out through a crack. It comes out with a rumbling and roaring noise. The geysers sprout with regular intervals They are found commonly in North New Zealand, Iceland and in the Yellow stone Park in the U. S. A.

The hot springs are also caused in the volcanic regions. The boiling water underground rises to the surface with bubbles if there is not great pressure. There is no explosion. The minerals contained in the hot springs have medicinal effect.

QUESTIONS

I. Choose the best answers.

1. A very good example for plutonic rocks is
   (a) granite, (b) sedimentary rock, (c) lava, (d) fossils.
2. Hot springs are found in
   (a) Ireland, (b) Iceland, (c) Japan, (d) England.

II. Complete the following sentences.

1. ——— is an instrument to record earthquakes.
2. ———is a solidified molten material found in the Deccan plateau.
3. The two kinds of volcanic eruptions are ———and ———

III. **Write short answers.**

1. What is meant by the earth's crust?
2. What is meant by 'faulting'?
3. How are fold mountains formed?
4. Mention some of the well-known volcanoes of the world ?
5. What are hot springs?

IV. **Write long answers.**

1. Describe the different kinds of rocks.
2. What are the results of the earthquakes?

Practical

1. On an outline map of the world mark some fold mountains and name them.
2. Collect various types of rocks and study them.

---

3. OCEANS

It is quite natural for us to think of the countries or the landmass only whenever we think of the earth. We should not forget that the earth includes seas and oceans which occupy more than two-thirds of the earth's surface. The Southern Hemisphere has a large water mantle whereas the most of the landmasses are in the Northern Hemisphere. The area of the Pacific Ocean is larger than all the lands put together. The lands of the continents are really islands as they are surrounded by watery areas on all sides. The Mariana Trench in the Pacific Ocean is deeper than the height of the highest mountains. It is about 11 k.m. deep whereas the Mount Everest is 9 Km high. The deep parts of the oceans are called 'troughs' or 'deeps'. The ocean beds are nearly even in all the

places. Oceans influence in many ways. We get salt from ocean water. The climate is influenced by them. We get fish, a substitute for food. But for the oceans life in some parts of the earth will be intolerable. 'World Ocean' is the term to refer all the oceans of the world. The oceans with different names are connected and merged with one another to form one continuous watery sheet.

The Pacific, the Atlantic and the Indian Oceans are the three important oceans. Around the North pole lies the Arctic Ocean and that of the South Pole, the Antarctic Ocean or the Southern Ocean. Now let us learn briefly about these oceans.

The Pacific is the largest ocean and it covers one third of the earth's surface. It is about 165 million sq. k m. (The Indian Ocean 74 and the Atlantic 82 million sq. k m.) There are many deeps in the Pacific such as the Mariana Trench (South of Japan), the Albatross deep (South of the Aleutian islands), the Tuscarora deep (South of the Kurile islands), the Nero deep (east of Guam), the Penguin deep (east of the Kermadee islands), and the Atacama deep near Chile coast.

The Bering Strait links it with the Arctic ocean. There are many prominent islands in the pacific ocean. They are the Hawaiian islands, the Samoa islands, the Marshall and the Gilbert islands. They are famous for the tropical products. Some of them serve as naval and air bases, and cable and wireless stations.

The 'S' shaped Atlantic ocean lies in between the Americas on the west and the Europe and Africa on the east. It is linked with the Arctic and the Antarctic oceans. On either side of this ocean there are deep 'troughs'. The Porto Rico trench near the Mexican Gulf is the deepest (9074 metres). The world's busiest ports lie on the shores of this ocean. The North sea, the Baltic sea and the Mediterranean sea are its parts.

The Indian Ocean, smaller than the Pacific and the Atlantic, lies South of India. It is bounded by Africa on the west, by India and Indo-China on the north and Australia on the east. It mostly occupies the tropical regions. Ceylon and Malagasy (Madacascar) are the continental islands. There are many more islands such as Java, Sumatra, Borneo and so on. The Arabian sea on the west and the Bay of Bengal on the east of India are its parts.

The Arctic ocean lies to the north of North America and Eurasia. This ocean is mostly frozen throughout the year due to intense cold. In the middle lies the Iceland.

The Antarctic or otherwise known as the Southern Ocean is bounded by the continent, Antarctica. It is merged with the three major oceans beyond 60° South Latitude.

The shallow water is narrow where mountains are bordered. But it is much wider in plain slopes. This wider portion of the sea floor is called the **'continental shelf'**. At the edge the shelf of the floor drops rapidly. This slope is called the, 'continental slope'. Beyond this, is the deep-sea plain and ocean deeps.

Temperature of the ocean

The temperature of the ocean is much more uniform because water takes longer time to get heated and cooled. Besides, the waters of the ocean are constantly moving and mixing. But, the temperature varies from equator to the poles with the seasons and with the depth of the seas. The highest temperature of the ocean water is recorded as 35·5°C in the Persian Gulf, a part of the Arabian sea. The lowest is-3$\frac{1}{8}$°C. In the equatorial region the ocean surface is warmer and is cold at the poles all the year round. The fact that we understand is that the temperature of the ocean differs from place to place and from time to time.

Salinity of the ocean

Generally the ocean water is salty. Why is sea water salty? The rivers and the streams bring various salts from different soils and empty them into the seas. Secondly due to evaporation, the salt is left in the sea. The salinity of sea water is calculated in parts for 1000. The sea water contains 35 parts of salt for every 1000 parts. But the salinity varies from place to place ranging from 40 in the Red sea and 30 in the Polar seas.

In the equatorial regions the salinity is low (35 to 34 per thousand) due to the addition of fresh water by the convectional rainfall in almost all the months of the year At the poles also the salinity is very low because the melting icebergs increases the freshness. As the Baltic sea is fed by huge quantities of water the salinity is low (8 per thousand). But in the gulf of Bothnia it is about 2 per thousand.

High salinity is found around the enclosed or partially enclosed seas. In the Red sea and in the Mediterranean sea the salinity is about 40 due to great evaporation. Dead sea contains 225 parts of dissolved salts. In the tropical regions it is about 36 parts Though the Baltic and the Mediterranean seas are fed by large quantity of river waters the former freezes more quickly than the latter as it contains more salts.

Circulation of Ocean water

The ocean water moves from place to place. This movement is caused by the sun, the wind and the rotation of the earth. The ocean water never stands still and it is on the move for ever. The three factors by which the movements are caused are: (1) When the surface water gets heated and becomes lighter it moves towards cold regions. To substitute this cold water comes up. Thus this in rotation forms the circulation of waters. (2) Cold water is heavier and tends to sink, (3) Saline water is also heavier tending to sinking.

The water from one ocean flows into the other as the oceans merge with one another. There is a constant loss in the level of the surface water in the equatorial regions due to evaporation. To overcome this the water from deep below rises up to the surface. When the surface water becomes more saline due to evaporation the water with less saline from below moves up causing a circulation. The strong winds also push the water from one direction to another causing surface drift. We should remember that the spinning motion of the earth causes the movements in the opposite direction.

Ocean Currents

The ocean currents are nothing but the movements of the water from one place to another as referred to above.

The ocean currents are of two kinds. They are the 'warm currents and cold currents'. The warm currents flow towards the cold and the cold currents towards the warm regions. But they both do not flow in a straight line. They are deflected by the rotation of the earth.

The Gulf Stream, the Brazil Current, the North Atlantic Drift, the Equatorial Currents and the Kurosiwo are the examples for warm currents.

The Benguela Current, the Labrador Current, the Kurile Current, the Canary Current, the Californian Current and the Peruvian Current are some of the important cold currents of the world. Look at the figure given below and learn the location of the currents around the different parts of the continents.

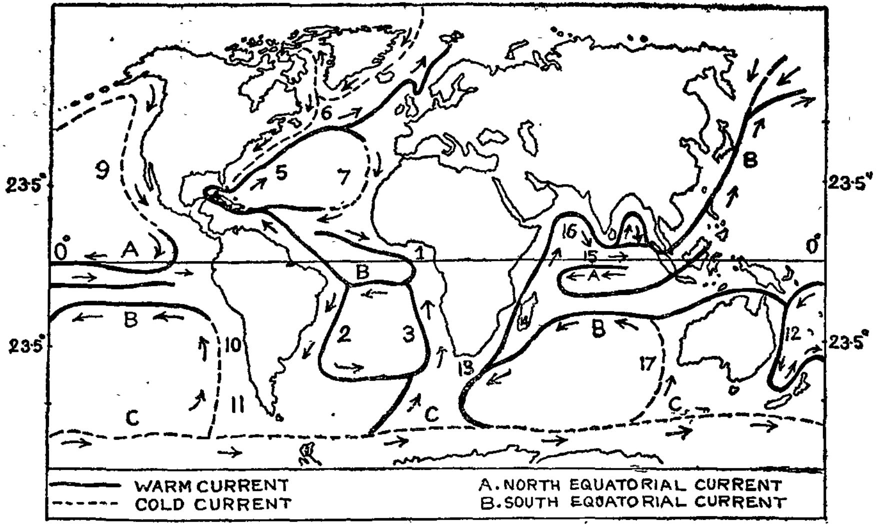

Fig. 9. The Ocean Currents

C. West Wind Drift, 1. Guinea Current, 2 Brazil Current, 3. The Benguela Cnrrent, 4. The Gulf Stream, 5. The North Atlantic Drift, 6. The Labrador Current, 7. The Canary Current, 8 The Kurosiwo Current, 9. The Californian Current, 10 The Peruvian Current, 11. The Humboldt Current, 12. The East Australian Current, 13. The Agulbas Current, 14. The Mozambique Current, 15-16 Monsoon Drifts, 17. The West Australian Current.

Influence of the Ocean currents on the neighbouring lands

Ocean currents generally influence the neighbouring lands to them. The climate is influenced by the currents.

The warm currents keep the air warm and the cold currents cold. The coolness is reduced by the warm currents and the heat by the cold currents. The British Isles and the North Western Europe are very much influenced by the warm current, North Atlantic Drift. They enjoy an equable type of climate. The ports of these North Western European countries are not frozen even in winter due to this warm current. But the coast of the Labrador on the same latitude as the British Isles is ice-bound for about nine months in a year due to Labrador current. Vancouver is free from ice whereas Sakhalin situated on the same latitude is ice-bound. New York 40°N has much cold winters than London 51°N though the latter is much farther north. (Study the world map showing the ocean currents and learn the causes for climatic changes.)

Dense fogs are common in the regions where the cold and warm currents meet. The Grand Banks of Newfoundland is famous for fishing. Sometimes the cold currents bring large quantities, of plankton enabling the fish feed freely. Violent storms are caused due to the meeting of the cold and warm currents. Typhoons are caused sometimes in the Pacific.

QUESTIONS

I. Choose the best answers.

1. The oceans exercise a moderating influence over the

   (a) population of the world, (b) agricultural productions, (c) climatic conditions of the world, (d) life of the animals.

2. In the equatorial regions the sea water is less saline because of

   (a) the evaporation in large scale.
   (b) heavy rainfall all the year round.
   (c) its nearness to the equator.
   (d) the movements of the sea-water.

II. Complete the following sentences.

1. ———is the largest ocean in the world.
2. ———water freezes more readily than the salt water.
3. ———and ——— are the two types of ocean currents.

III Write short answers.

1. Name the three great oceans of the world.
2. Mention some of the 'deeps' in the Pacific.
3. Why is sea water saline?
4. How are ocean currents caused?
5. Give two examples for each type of ocean currents..

IV. Write long answers.

1. Why is the Atlantic Ocean considered to be the most important?
2. Mention the influences of the ocean currents on the neighbouring lands.

Pratical

1. In an outline map of the world mark the important ocean currents.
2. Make a field trip to seashore and study and learn how common salt is made from sea water.

PART II

EUROPE

1. GENERAL SURVEY

With the exception of Australia Europe is the smallest of the continents. Europe and Asia form Eurasia. Its area is one-fifth of that of Asia or a little more. Europe is a very irregularly shaped landmass. If you look at the figure No. 10 you can clearly understand its position. On the three sides it has water boundaries, on the North the Arctic Ocean, on the West, the Atlantic Ocean and on the south, the Mediterranean sea. It is also penetrated by inland seas.

As regards latitude it extends roughly from 35° N to 71°N. It lies almost within the Temperate Zone. It is also noteworthy that it extends 4·5° beyond the Arctic Circle. It lies between 10° W and 60° E longitudes.

Europe is always considered to be a seperate nation. Historically this continent is very important for several reasons. It is believed that the ancient human race came only from Europe. It is the cradle of the famous Western Civilisations. As an active continent she has well developed in industry and commerce. The great explorers came from Europe only. The energising climate makes the Europeans active and industrious from the ancient times. She enjoys a unique status in the world even today in trade, manufacture and world politics.

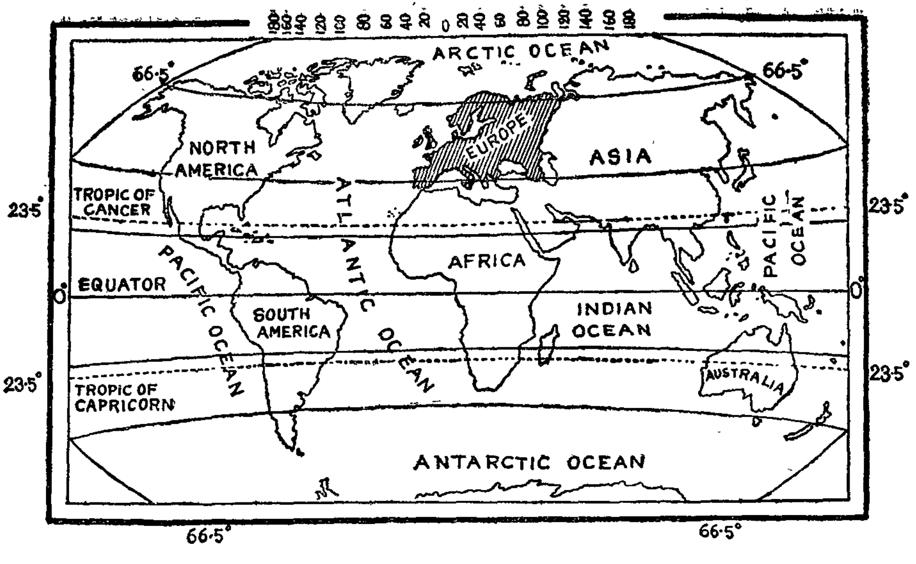

Fig. 10.

Position of Europe in the World.

Peninsula of Peninsulas

You know Europe is part of Eurasia. This part is a peninsula because it is surrounded by waters on three sides and by the landmass of Asia on the other. Being itself a peninsula Europe has a number of smaller peninsulas such as Scandinavia, Jutland, the Iberian, the Italian and the Balkan. Hence, Europe is rightly called 'a Peninsula of Peninsulas'.

The Coast Line

Europe has a very long coast line. Its coast line is irregular in several places with many gulfs and seas. No part of Europe is more than 640 k. m. away from the sea. In the north-west lies the North sea in which rich fish is caught. The English Channel, Irish Sea and the Baltic sea with its gulfs of Bothnia, Finland and Riya are also in the northwest. They are less than 185 metres deep. In the south the Mediterranean is divided into two deep basins by a submarine ridge between Sicily and Tunis. The Black sea is connected with the Mediterranean by the small sea of Marmora. Further east lies the land-locked Caspian sea, the surface of which is nearly 26 metres below the sea-level. These coasts help to reach the interior part of Europe easily. The west coast of Scandinavia is indented by a number of large and small 'fiords'. There are sheltered waterways along this coast The North Sea coast from Jutland to Belgium is low and bordered by sand dunes There are numerous large lagoons on the Baltic Coast. Generally the European Coast line provides many natural harbours. The harbours in the north west of Europe function all the year round because of the influence of the warm Atlantic Drift.

The Western European Civilisation and Culture

Europe is the birth place of ancient civilisations. It has a civilisation and culture of its own which has affected the entire world. The Roman and the Greek civilisations are worth mentioning. The continent is now the home of the most highly

civilised peoples in the world, and is foremost in industry, commerce, science and art. Europe has first opened the new sea route towards the west and the east and then she has cultural contact with other nations. She has well developed her commercial contact with the other parts of the world. Europeans are hard-working people and they have overcome poverty and illiteracy. Italy is the home of the cultural "Renaissance". England is known as the mother of the Parliamentary system of government. The word 'nationalism' finds its root only in Europe. Europe has produced great thinkers and scientists who served for the betterment of the whole human race.

Exploration and discoveries leading to the Opening of the Americas, Africa, Australia and New Zealand.

Europe has produced a great number of explorers. Because of the increasing knowledge and free thinking of the people of Europe new sea routes and new lands such as Americas, Australia, Africa and Tasmania are known to the world. The Mariner's compass facilitated the explorers and discoverers to sail in distant seas. In 1492 Columbus discovered America. In 1498 VascodaGama, a Portuguese sailor, doubled the Cape of Good Hope and discovered the new sea-route to India. It was Megallan who circumnavigated the world and proved that the world is spherical in shape. James Cook discovered Australia, the island continent and Tasman explored New-Zealand. Many personalities such as David Livingston, Stanley and Mungo Park explored Africa, the dark continent. Amundson explored and discovered the continent of Antarctica and reached the South Pole. The new sea routes and discoveries have brought the people of the world very close to one another. They have had contact with new lands and new ideas. The mind of men has become broadened.

QUESTIONS

I Choose the best answers :

1. The Europeans are active and industrious because of

   (a) the energising climate.

(b) the Industrial Revolution of 18th Century.

(c) of their participation in world politics.

(d) its central position of Europe in the world.

2. The Caspian sea is

(a) land-locked, (b) a part of the Black sea,

(c) part of the Persian Gulf, (d) very salty.

II. Complete the following sentences :

1. The West Coast of Scandinavia is indented by large and small ——— .

2. ———circumnavigated the world and proved to the people that the earth is spherical.

3. Italy is the home of the cultural ———.

III. Write short answers.

1. Name some explorers and the new lands discovered by them.

2. What is known as Eurasia?

3. Who explored the dark continent, 'Africa' ?

4. Who discovered the continent of 'Antarctica' ?

IV. Write long answers.

1. Why is Europe called 'a Peninsula of Peninsulas' ?

2. Describe the coastline of Europe.

Practical

Prepare an album of the great explorers of Europe.

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2. STRUCTURE AND RELIEF OF EUROPE

Europe is divided into four main physical divisions. They are

1. The North-West Highlands.

2. The Central Great European plain.

3. The Central Uplands and

4. The Southern Fold mountain system.

To understand clearly the relief of Europe look at Fig. 11.

1. The North-West Highlands

This division consists of the highlands of Scotland and Scandinavia. They are disconnected fragments of the ancient rocks. These regions are made up of sedimentary rocks owing to denudation by Glaciers. They have been worn down into plateaus. These regions are bordered by Fjords. To the east of these highlands are the plains.

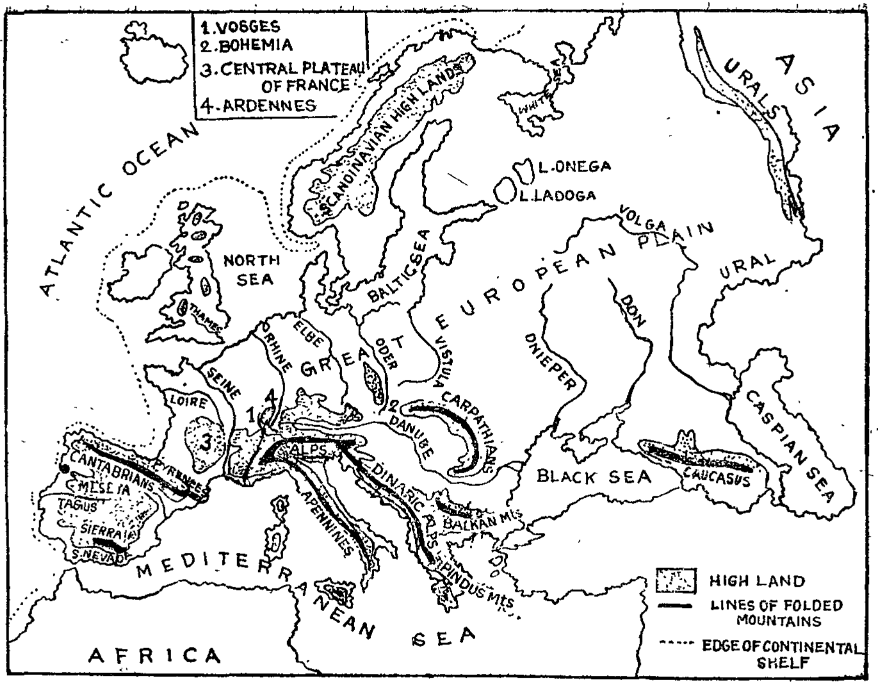

Fig. 11. Europe: Relief

2. The Great European plain

This plain lies to the south of the North-Western plateau. It stretches without a break from the Bay of Biscay through the Northern France, Northern Germany and Russia to the Ural mountains. It is widespread in Russia from the White sea to the Black sea and the Caspian sea. It is almost a flat plain but slopes down from the Valdai hills to the sea on the west

3. The Central Uplands of Europe

The Central Uplands stretch across the centre of the continent. Due to considerable faulting some areas have been uplifted to form crust blocks and others have subsided. Among the elevated crust-blocks are Meseta in Spain, the Central plateau of France, the highlands of Cornwall and Southwest Ireland. The Ardennes, the Rhine highlands, the Vosges, the Black forest and the Bohemian uplands come under this Central Uplands. Corsica and Sardinia are also crust-blocks. But they are isolated. The Central highlands include three lowlands of great importance, They are the great plain of Hungary and Southern Austria, the middle Rhine and the Rhone-Sone. In addition, the plain of Lombardy (Po Plain) is one of the most fertile regions in Europe.

4. The Southern Fold mountains

The southern fold mountains are younger than these uplands. They form the fold mountains; one part of this system extends from the Cantabrians in Spain to the Himalayas in Asia across Europe. The Alpine is the main System. In this system the Cantabrians, Pyrenees, Alps, Carpathians, Transylvanian Alps, Balkan Heights and the Cacasus are the chief mountains. The Apennines form the backbone of Italy and extend to the Atlas in Africa through Sicily. The Sierra

Nevada mountains of southern Spain are the branch of this Alpine system. Jura mountains are parallel to the Alps in the North-West. The most important passes are the Mount Cenis, the Simplon, the St. Gotthard and the Brenner. The highest mountain peaks are the Mont Blanc, the Monte Rosa, the Matterhorn and St. Gotthard.

The Rivers of Europe

The rivers of Europe are most important in the world because most of them are navigable and at their heads stand some of the world's chief cities.

The Rhine (1216 k.m.), the Rhone (784 k.m.), and the Po (664 k.m.) rise in the Alps. The Danube (2720 k.m.) has its sources in the Black Forest Range and drains into Black Sea whereas the Rhine flows into the North Sea, the Rhone into the Mediterranean and the Po into the Adriatic.

Vistula and Oder rise in the Central uplands and flow into the Baltic passing through the European plain. The Elbe rises in the same uplands and flows into the North Sea. Loire and Seine are the important river system in France The former reaches the Bay of Biscay whereas the latter the English Channel. The Douro, the Tagus and the Guadalquivir rise in the Meseta plateau in Spain and drain into the Atlantic and the Ebro flows into the Mediterranean.

The Volga (3520 k.m.), the longest river in Europe, passes through the South Russian plain and drains into the land-locked Caspian sea.

The Dniester (1120 k.m.), the Dnieper (1920 k.m.) and the Don (1920 k.m.) run towards south and flow into the Black sea. The Dvina flows into the Arctic Ocean.

QUESTIONS

I. Choose the best answers.

1. The main mountain system of Europe is
   (a) The Alpine. (b) the Apennines.
   (c) the Pyrenees. (d) the Caucasus.

2. The longest river in Europe is
   (a) the Danube. (b) the Elbe. (c) the Volga.
   (d) the Thames.

II. Complete the following sentences.

1. ———is one of the most fertile plains in Europe.
2. ——— is called the back-bone of Italy.
3. The Danube drains into———.

III. Write short answers.

1. Name the four main physical divisions of Europe.
2. Write a note on the great European plain.
3. Name some passes and peaks in the Alps.
4. How are the rivers of Europe most important ?
5. Where does Volga drain into ?

IV. Write long answers.

1. Describe any two of the physical divisions of Europe.
2. Write briefly about the rivers of Europe.

Practical

1. On an outline map of Europe mark the important rivers and plains.

2. Mark the important mountains of Europe in an outline map of Europe.

3. CLIMATE

You have learnt that Europe lies in the Temperate Zone and it enjoys the finest climate in the world. The whole of Europe lies in the Westerly Variable wind or Anti-Trade Wind belts. It has a long penetrated coastline. No part of Europe is very far away from the seas. The absence of a north-south mountain barrier helps to carry the Westerly winds to the far off lands diminishing towards east according to the increased distance. The North Atlantic Drift which flows along the northern and western parts of Europe causes a mild winter climate. Due to all these reasons the climate of Europe is equable and energising. But the climate in Russia differs. It is very cold in winter.

In winter the Atlantic retains warmth which it absorbed during summer. When the sun is overhead in the South Tropic zone, the heat, wind and rainfall shift to south. During this season the westerly winds blowing over the Atlantic become warm due to the drift and raise the temperature causing a mild winter.

Look at Fig. 12 and understand that the temperature decreases from west to east in winter.

When the sun is overhead in the North Tropic zone, its rays shine more directly and the heat is much greater; on the other hand the regions near the ocean are cooler than the interior where it is felt a little.

Look at Fig. 13 and learn that the temperature decreases from south to north in summer and the Isotherms run from South-west to North-east.

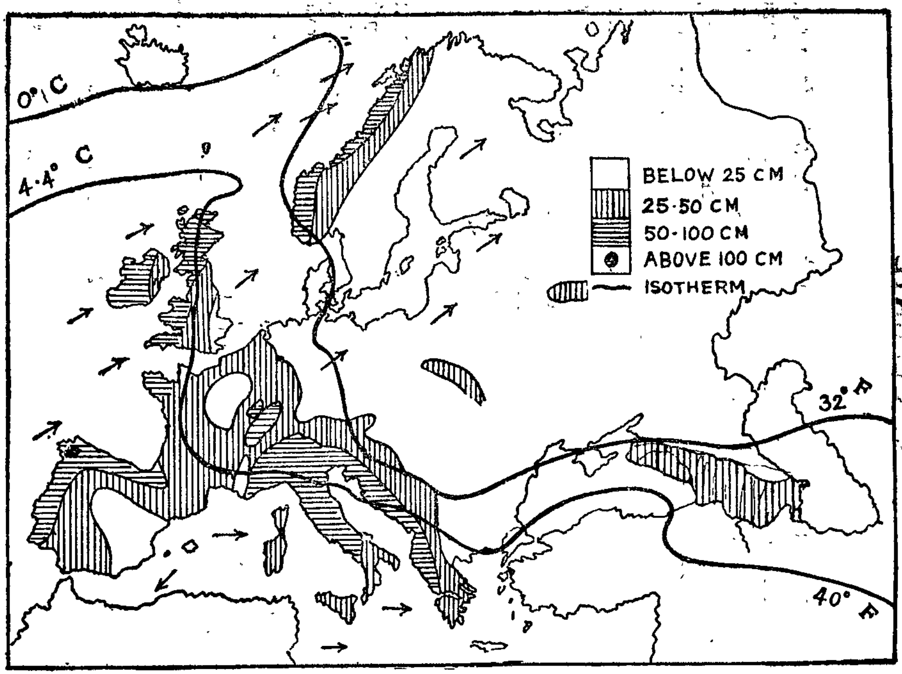

Fig. 12. Europe : Winter Temperature and Rainfall.

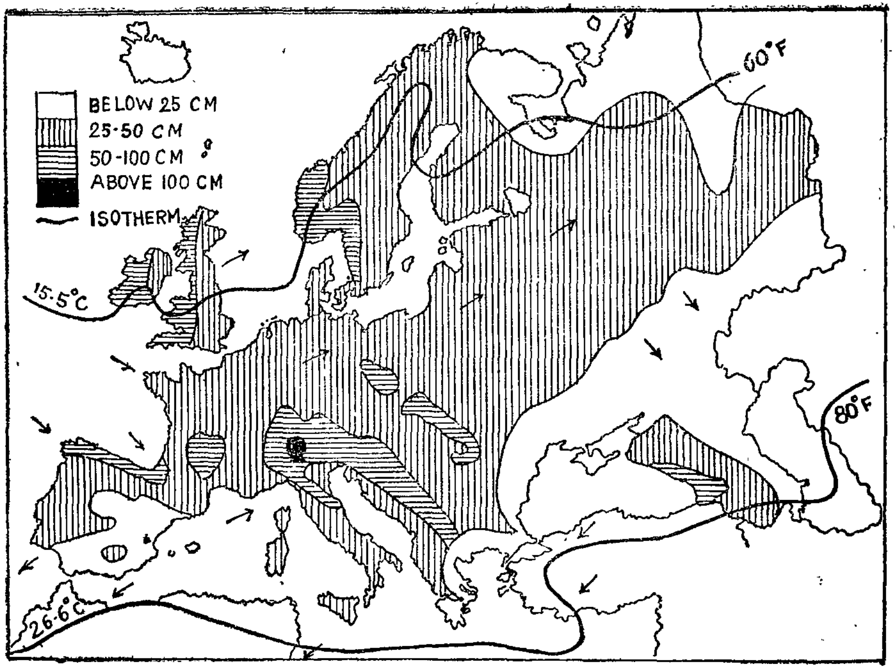

Fig. 13. Europe : Summer Temperature and Rainfall.

Significance of 0°C and 20°C Isotherms in relation to agriculture

The winter isotherms differ very much from summer. The 0°C isotherm passes through the North Western, Central and South Western parts of Europe. British Isles, France and the Mediterranean countries lie west and south of this isotherm. From this we understand, that the temperature in the north and east of this line is below 0°C.

In summer the 20°C isotherm passes from west to east through the heart of Central Europe. Beyond this line in the south the temperature is high and in the north it is low (i.e. below 20°C).

From these we understand that the climate differs from region to region in Europe. The difference in climate affects the European agriculture. Beyond north and east of France agriculture is poor as the temperature falls below 0°C. But the British Isles, France and the Mediterranean countries grow wheat and suger-beet as they lie west and south of 0°C isotherm.

The summer climate is ideal and more suitable for cultivation. Cereals like wheat, oats, barely, rye and maize are grown during this season which is mild and warm.

QUESTIONS

I. Choose the best answer.

The Mediterranean type of climate means

(a) dry summers and wet winters.

(b) long summer and short winter.

(c) rainfall only in summer.

(d) steppe climate.

II. Complete the sentences.

1 The ports of the north-western Europe do not freeze in winter because of the————

2. The cold Tundra climate is not suitable for ——— of cereals.

III. Write short answers.

1. Write about the summer climate of Europe.

2. Why is winter season unsuitable for any cultivation beyond east and north of France ?

IV. Write long answer.

Explain how Europe's climate affects its agriculture.

Practical

On an outline map of Europe mark the 0°C and 20°C isotherms and discuss with your friends what you have understood from them.

4. RAINFALL—DISTRIBUTION

The distribution of rainfall depends upon the climatical conditions. The winds, and the seasonal changes that occur due to atmospheric pressure and other physical features are the causes for rainfall. The whole Europe may be divided into three rainfall regions. They are :

1. Rainfall all the year round,
2. Summer rainfall,
3. Winter rainfall.

1. Rainfall all the year round

During summer and winter Europe is influenced by the Westerly winds from the Atlantic ocean. The north-west regions such as south-west Norway, West Scotland, the Lake districts of England, the Welsh Uplands and the north-west Spain get the heaviest rainfall all the year round. As we move towards south and east the rainfall decreases gradually. It is below 25 c.m. whereas the Great Britain receives 250 c.m. annually. In Tundra the annual rainfall is very less. But there is abundant snowfall instead of rainfall.

2. Summer rainfall

As the conditions change in summer the central and eastern Europe come under considerable heat and low pressure The Westerlies blow farther inland in summer than in winter. Thus most of the rain in central and eastern Europe falls in summer. But, there prevails a high pressure zone in the Mediterranean Regions resulting dry conditions with little rain.

The rainfall is moderate in the central and eastern Europe. Partly due to the Atlantic depressions the eastern Europe in addition gets the convectional rainfall. But, the regions around the Caspian Sea get poor rainfall.

3. Winter rainfall

In winter, Europe is highly influenced by the Westerly winds. In the interior of central Europe a high pressure is caused due to cold winter. The regions in the north-west of Europe are the wettest. South-west Norway, the western part of Scotland, the Lake districts in England, the Welsh Uplands and the north-west Spain receive heavy rainfall. Only in winter, the Mediterranean countries get ample rainfall whereas they are dry during summer. The central and eastern Europe are almost dry.

Depressions (cyclones) are common in winter in the Atlantic. They bring considerable amount of rainfall to Western Europe

QUESTIONS

I. Choose the best answers.

1. Atlantic depressions cause eastern Europe to get

   (a) convectional rainfall.

   (b) no rainfall at all.

   (c) poorer rainfall.

   (d) the maximum rainfall.

2. British Isles get rainfall all the year round because of

   (a) the Westerlies. (b) the Trade winds.

   (c) the Monsoon winds. (d) the Warm current.

II. Complete the sentences.

1. In the Mediterranean regions rain falls only in ———.

2. ———part of Europe gets rainfall throughout the year.

3. If we move towards east the rainfall decreases in Europe because———.

III. Write short answers.

1. What are the three major rainfall regions of Europe ?

2. What are the countries that get rainfall only in winter ?

3. How does rainfall influence agriculture in Europe ?

IV. Write long answer.

Divide Europe into several rainfall regions and describe each.

Practical

In an outline map of Europe show the distribution of annual rainfall.

---

5. CLIMATIC BELTS OF EUROPE

Types of Climate

Being a small continent Europe enjoys five types of climate. The major climatic types are shaded in Fig 14. They are :

1. the Mediterranean climate.
2. the North-west European type or the cool Temperate oceanic climate.
3. the Central European type or the Temperate continental climate.

4. the East European type or the Cold Temperate climate.

5. the Arctic type or the Tundra climate.

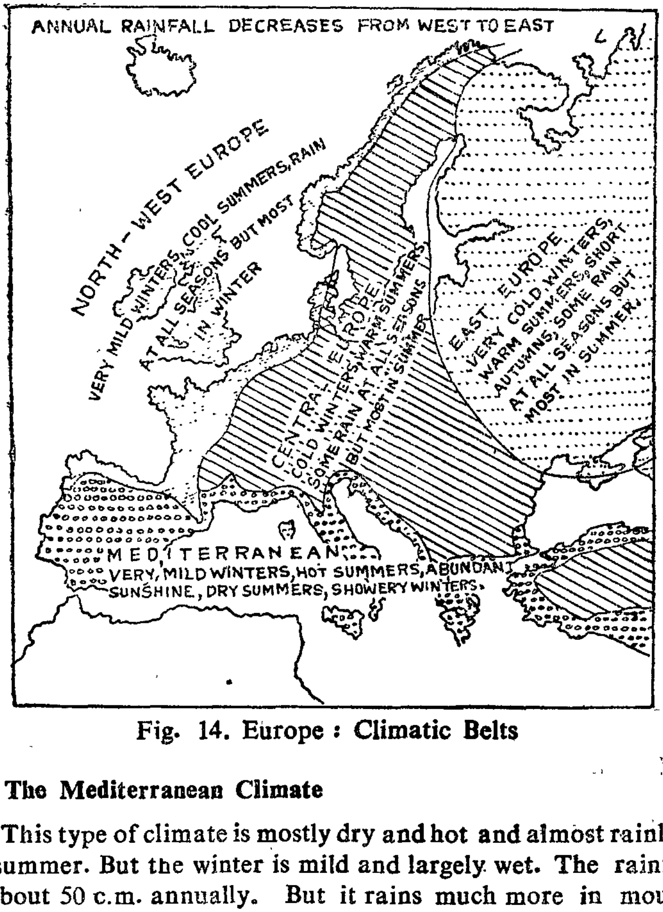

Fig. 14. Europe : Climatic Belts

1. The Mediterranean Climate

This type of climate is mostly dry and hot and almost rainless in summer. But the winter is mild and largely wet. The rainfall is about 50 c.m. annually. But it rains much more in mountainous districts. This type of climate is found in a greater part of Portugal and Spain, Southern France, the Southern part of Italy and the coasts of Yugoslavia and Greece. However, the eastern and central Spain are very dry with the least amount of rainfall.

Ever-green trees like olive, cork, mulberry and laurel are common vegetation here. The cultivation of fruits such as oranges and lemons, apples, peaches and grapes is carried on well in this region.

2. The North-West European Climate or the Cool Temperate Oceanic Climate

This is the best type of climate that Europe enjoys. This type has warm winters and cool summers. The rainfall is very evenly distributed the year round. The temperature never goes down to 0°C and exceeds 20°C. The rainfall is about 100 c.m.

Western Norway, Denmark, Holland, Belgium, North-west France, North Spain, the British Isles and the Iceland have this type of climate. The deciduous forests with broad leafed trees are common here. Here and there they are now cleared up for cultivation.

3 The Central European Climate or the Temperate Continental Climate

The special features of this climate are the hot summers with 20°C in July and very cold winters with 0°C and below in January. This climate is also known as Steppe climate because most of the areas here are covered with the Steppes, the grass-land. The rainfall is not enough for the trees to survive.

Southern Russia, the lower Danube in Rumania and Hungary have this type of climate. Wheat and maize are the leading crops.

4. The East European Climate or the Cold Temperate Climate

This has hot summers and very cold winters. The rain-fall is very scanty. Coniferous forests are found here with trees like pine, larch and spruce

5. The Arctic or Tundra type of Climate

In this type the summers are short and cold and the winters are long and very cold. The winter temperature is below —18°C. The rainfall is very little and there is snowfall. The natural vegetation is impossible here. Mosses and lichens grow here. This climate stretches in the high mountains of Norway and Sweden and along the Arctic coast-line of Russia.

QUESTIONS

I. Choose the best answers.

1. The north-west part of Europe enjoys
   (a) oceanic climate.
   (b) continental climate.
   (c) tundra climate.
   (d) tropical climate.

2. The Arctic type of climate has
   (a) hot summers.
   (b) mild winters.
   (c) short summers and long winters.
   (d) very long summers and short winters.

II. Complete the following sentences.

1. Southern France has———type of climate.
2. The central European type of climate is known as ———.

III. Write short answers.

1. What is meant by the Mediterranean climate ?
2. Name the countries that enjoy the oceanic type of climate.
3. What are the places in Europe where the Arctic type of climate prevails ?

IV. Write long answers.

Divide Europe into five climatic types and describe any two of them.

Practical

Draw a map of Europe to show all five types of climatic Regions of Europe.

---

6. NATURAL RESOURCES

You have studied that Europe has a number of pre-eminent positions. One among them is its Natural resources. In the field of industry and trade it has a unique place in the world. The industrious Europeans lead a pleasant life. The per capita income in Europe is very high.

Land Resources

Europe has enormous mineral wealth. It amounts to more than half of the world's production. It has the best coal and the greatest number of metallic ores in the old rocky regions. Among the ores iron is widely distributed.

The chief coal mines lie along a line stretching from South Wales to South Russia.

The Sambre-Meuse and Rhur Valleys are well known for coal fields. The other important coal mines are the Saxony, the lower Silesian, the central plateau of France and the Donetz Basin and the northern parts of the Ural mountains in Russia. The rich iron deposits are found in Loraine in France. Sweden produces large quantity of iron ore every year. It is mostly found in Kiruna, Gellivare and Dannemora mines but there is no coal found in Sweden. Krivoy Rog iron field in Russia produces

more iron ore and steel. Other countries such as Switzerland, Spain, Holland, Belgium produce iron ore in some quantity or other.

Europe also produces salts, zinc, copper, tin, silver and gold. They are very useful to the modern industries.

• Petroleum, the chief essential mineral of each and every country is abundant in Europe. The U S.S.R. produces a large quantity of petrol every year. Rumania and West Germany are producing petrol in large quantity. The natural gas is also produced from the same fields where from petroleum is mined. It is mostly used as fuel not only in industries but also in cooking. The U.S.S.R., France, Rumania, Italy and Holland are rich in producing natural gas.

Though Europe has well advanced in industries, its main occupation is agriculture. To most of the people it is life-giving industry. France, Holland, U.K., Italy, U.S.S.R., Spain and West Germany are agricultural countries. Some countries raise commercial crops. The most famous fruit gardens and vine gardens are found in the Mediterranean countries. In addition to agriculture people rear sheep, breed cattle and keep poultry. Livestocks are bred on the mountain slopes and rocky tablelands because no crops can be raised in these regions.

The wool and the woollen goods are produced largely in U.S.S.R., U.K., Spain, Rumania, France and Bulgaria. The material resources are abundant from land in Europe. So, Europe is economically stronger and healthier.

Water resources

You have read that Europe has a long broken coastline. This coast line benefits Europe in many ways. The seas have

penetrated far into the interior. There are fiords along the coast of Norway. The rivers and canals serve as a net work of communication and they are also useful for irrigation. On the west of Europe, there is a long and wide continental shelf and the water is shallow. The North Atlantic Drift warms the waters and favours the fishing industry. So, the water resources of Europe are great and serve in a lot of ways, providing some of the well-known natural harbours of the world on its coast.

The land does not provide sufficient focd for its overgrowing population. As the people are seafarers the fishing is carried on extensively. They follow the scientific and modern methods in fishing. Norway, Denmark, Great Britain and Iceland have well advanced in the cult of fishing. Iceland is famous for its rich fishes.

The natural harbours along the coasts have become the best seat of ship-building industry. It is one of the major industries of Europe. There are many world famous ship-building yards and naval bases in Europe. Ware-houses are built on its coasts. Besides, the waters help for an equable climate. The deep rivers such as Danube and Rhine form the best means of communication and transportation. Many irrigation and hydro-electric projects have been implemented.

Forest Resources

The forests form the best natural wealth in Europe. There are forests in the south and north of Europe. Look at the *Fig. 15* and learn about the Natural Vegetation of Europe.

The coniferous forests are found in the south of Tundra. The leaves are needle-like to check transpiration. Pines, firs, hemlocks and spruce are the good examples for this type of trees. They withstand the low rainfall and long severe winters. To the south and the west of this belt, there are the deciduous forests. Beeches, oaks and other broad leafy trees are

found in these forests. They require rain at all seasons. These deciduous woodlands of western and central Europe have now been cleared up for cultivation. Evergreen forests are found in the Mediterranean regions; they can resist dry summers. The helm, oak, olive, vine, orange and lemon are some of the trees and plants of this region.

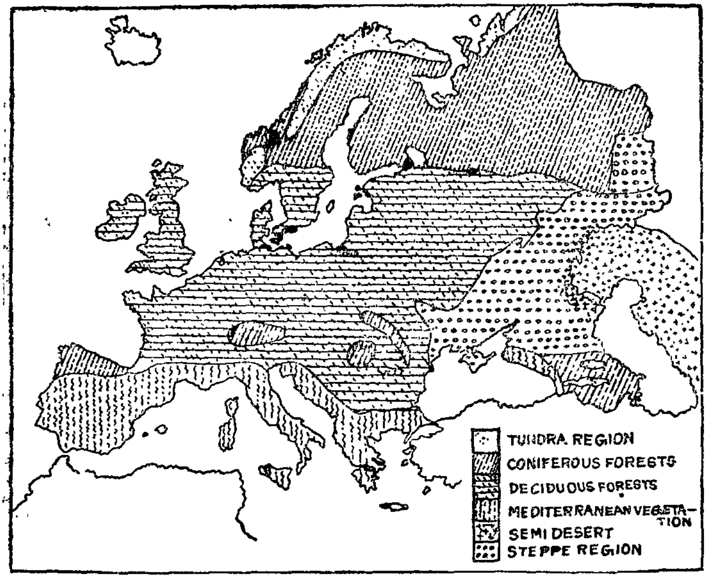

Fig. 15. Europe : Natural Vegetation

Forests yield huge quantities of timber, bark, wood, wood-pulp and turpentine. From the coniferous forests soft wood and timbers are obtained. The deciduous forests yield hard woods. The forest industry is developed in large scale in Norway, Sweden, Finland and Northern Russia.

Pasture Resources

The steppe or the grassland is used as pasture lands for cattle and sheep. The steppes are found over the lower plain of the Danube and in Southern Russia. They are suited to hot summers and cold winters.

The people of the steppes are largely nomadic, following their flocks from pasture to pasture. But at present agriculture is increasing in the more favoured parts. Pasture lands for sheep and goats are found in the United Kingdom, France, West Germany, Poland, Rumania, Spain, Bulgaria, mountanious regions of Greece and Yugoslavia. The U.S.S.R. leads all countries in Europe in livestock breeding. Denmark stands first in the dairying industry.

QUESTIONS

I. Choose the best answers.

1. In most of the European countries sugar is made from

   (a) sugar-beet.

   (b) sugar-cane.

   (c) maize.

   (d) pine apple.

2. Evergreen forests are commonly found in Europe in

   (a) Tundra.

   (b) Mediterranean regions.

   (c) Central Europe.

   (d) nowhere in Europe.

II. Complete the following sentences.

1. Pasture lands are known as————.

2. ————is famous for fishing industry in the north-west of Europe.

3. Denmark stands first in ———industry in the world.

III. Write short answers.

1. Mention some of the coal mines of Europe.
2. Which is the life-giving industry of the people of Europe ?
3. What are the favourable conditions available for the advancement of fishing industry in Europe ?
4. Mention some of the trees found in the coniferous forests.
5. Name the pasture lands of Europe.

IV. Write long answers.

1. Describe the water resources of Europe.
2. Give an account of the forest wealth of Europe.

Practical

Collect broad and needle shaped leaves and study them.

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7. AGRICULTURE

General

Agriculture is the main occupation for most of the people of the world. Even in the well-developed countries it serves as an important industry for further economical developement.

As far as Europe is concerned the agriculture is the traditional occupation of the people. But she is now an industrial and manufacturing country because of the Industrial

Revolution which took place in the 18th century. Agriculture has regained its past position and it is now practised extensively in countries like France, Belgium, Germany, Rumania, Hungary, Italy and Russia on the modern mechanised scientific lines. The agricultural operations such as tilling, sowing, weeding, harvesting and threshing of grains are carried out by machines.

The agricultural crops may be divided into three major categories. They are :

1. Food crops,
2. Commercial crops and
3. The market gardening.

1. Food Crops

Of the cultivated plants of Europe the most important are the cereals. The cereals like wheat, barley, rye and oat are grown in plenty.

Look at the *Fig. 16* given below and have a general idea of food crops grown in Europe.

Fig. 16. Europe : Food Crops

Wheat: This crop requires mild temperate climate. The land should be wet at the time of sowing. But no water should stagnate at the roots. So, it is cultivated in the countries where the drainage system is well administered. The black and loamy soil are suitable for wheat.

Wheat is cultivated in two seasons namely, winter and spring. 75% of the production is being done in winter. The second type of wheat is sown at the beginning of the spring season and harvested just at the end of the same season.

Soviet Russia, France and Italy produce wheat in plenty. Ukraine around the Black Sea in Russia stands first in wheat cultivation. It is known as the 'Granary of Russia'. In the north, forests are cleared and wheat is cultivated. The western Siberia has now increased the production of wheat.

In the north-western Europe, France produces large quantity of wheat. French plain is one of the great wheat growing centres of Europe. It is grown in plenty in the Loirel Seine basin. So,it is known as the 'Granary of France'. In the Mediterranean region Italy occupies the first place in wheat cultivation. Lombardy or 'Po' plain is most famous for the cultivation of wheat.

Paddy : Owing to favourable climatical conditions paddy is grown in Italy and Spain. Nowhere else in Europe this crop is grown except the Mediterranean region.

Barley : Barley is cultivated from the long past. Although barley is a rather hardier plant, it is grown in colder and drier regions. To the greatest extent its cultivation is carried on in the wheat areas. It is now largely produced to make malt for brewing.

Europe produces more than 72% of the world's barley. Russia is by far the greatest source of supply. Barley is grown

in eastern part of England where the rainfall is not too much. It is also grown in the south and central part of Germany, eastern part of Denmark and in Czechoslovakia. It is sparsely grown in Rumania, Finland and Sweden.

Rye : Rye needs less heat and damp climate. This can be grown in poorer soils. This is the staple food for the European farmers. From rye people make 'black bread' which is cheaper than wheat bread. People in central and eastern Europe mostly eat this bread. Using scientific and up-to-date methods Poland, Rumania, Germany and Russia produce large quantity of rye. To grow rye, Belgium and Holland follow intensive method of cultivation.

Oats : This is closely associated with rye because its requirements are very similar to that of the rye. This crop needs cold and damp condition. Oats are regarded as valuable food for animals. People of Ireland, Scotland, Norway and Sweden eat oats-meal. Consequently this crop is grown to a considerable extent in Russia, Poland, France, West Germany, United Kingdom and Sweden

2. Commercial Crops

People raise these crops not only for food, but to get some income. Some crops are mainly grown to earn money. Some such crops are cotton, tobacco, coffee, tea, cocoa, rubber, oil seeds and sugar-cane. But all of them mentioned above are tropical crops not suited to European climate.

The commercial crops suited to European climate are sugar-beet, hemp and flax. These are grown largely in Europe. Hemp and flax give fibre to feed the textile industry. These are cultivated in poor soils like rye. They are grown in France, Poland, Holland, Bulgaria, Hungary and Czechoslovakia, northern Italy and Ireland. In Russia they are grown in the coniferous belt.

Sugar-beet is a marked crop in the continent of Europe because the climatic conditions are favourable for its cultivation. Beet sugar is extracted from its fragments by diffusing the roots into water. From the juice so obtained sugar is made. The pressed and waste fragments are used as valuable cattle food. The greatest quantity of beet-sugar is produced in Germany, Poland, France, Belgium, Italy, Czechoslovakia and Russia. Among the countries of the world, Russia stands first in the production of beet-sugar. Next comes Poland. In the United Kingdom there is a relatively small production in the eastern regions.

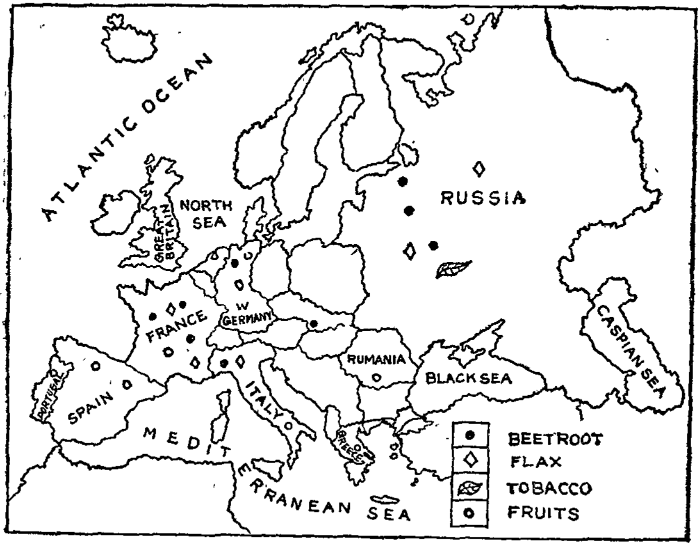

Fig. 17. Europe : Commercial Crops

Flax is grown in the warm temperate regions. From its seeds oil and oil cakes are prepared. The separation of fibre from the plant involves a lengthy process. Yet it has a great demand in the world market. Russia has the largest production of flax. It grows in central Europe, Baltic states and in the north easteren part of Ireland.

The Mediterranean countries grow fruits of all kinds. Dry fruits and fruit juice are exported to other countries from the Mediterranean regions of southern Europe. Tobacco and cotton are grown in small areas here and there.

Oil seeds like sunflower and linseeds are grown in Bulgaria and Russia. From olive seeds, oil is produced in the Mediterranean regions. Look at *Fig. 17* and learn the countries in Europe where these commercial crops are grown.

3. Market Gardening

This is purely meant for vegetable cultivation and flower gardening In almost all the countries of Europe, market gardening is carried on. Vegetables such as cabbage, lettuce, spinach, cauli-flower, beans, peas, onions are cultivated.

Besides these vegetables, flowers are also grown in plenty and sent to the markets. This can be more useful to give quick and steady income. In the vale of Evesham in England, Holland, Rhineland, Greece and Italy flower cultivation is practised. Holland is famous for Tulip flowers. This flower culture is done in England, Holland and Bulgaria. Rose gardens are famous in the sheltered valleys just south of the Balkans. From roses the perfume called 'ather' (scent) is prepared.

Stock Raising, Dairying and Poultry

From the remote past, the Europeans were mainly pastoral people. In addition to agriculture, they reared cattle, sheep and pigs. Some of them were used in the farms and others for meat, milk and wool. Being a cold continent, Europe was famous for wool and woollen industry. The European countries were turned into manufacturing countries soon after the Industrial Revolution Yet, even today they rear millions of cattle. sheep, pigs and other animals. There are a number of pasture lands where agriculture is not possible. But they are

suitable for stock raising. Every country in Europe domesticates livestocks.

Livestock consists of cattle, sheep, goats, pigs, horses and poultry. Cattle are reared for dairy purposes owing to the great demand for milk. They also get beef from cattle. Sheep are reared for wool (raw material) for Textile industries.

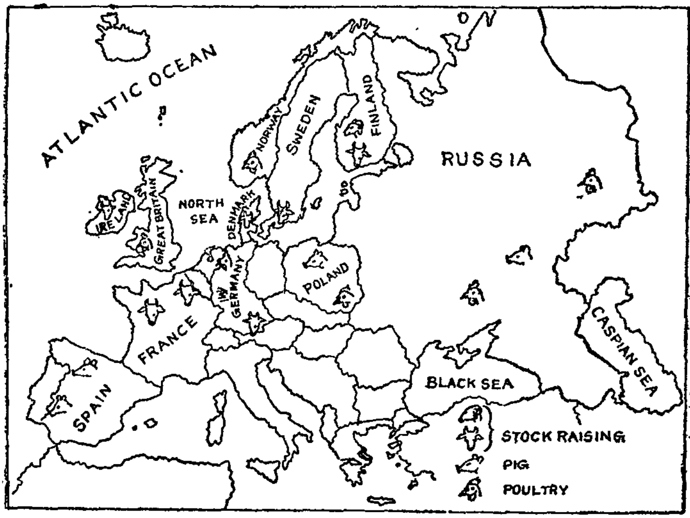

Fig. 18.
Europe: Stock Raising, Dairying and Poultry

European woollen products are world famous. Pigs are reared for pork, ham, and bacon. All their food requirements are not met with in Europe. Meat, fish and eggs are supplement to their food. Poultry is closely attached to the other branches of livestock industry. Horses are bred for ploughing the field and pulling the carts. They are also bred for riding, racing and export. The Spaniards breed bulls for fighting. Donkey is considered as a beast of burden.

Russia, France, West Germany, the United Kingdom Poland, Yugoslavia, Rumania, Czechoslovakia, Switzerland, Denmark, Holland breed cattle in large numbers. Sheep, goats and pigs are reared in all countries of Europe.

Dairying

Dairying is an important industry in Europe. Due to the rapid growth of the population milk and milk products are in great demand throughout the world. People find it essential to carry on dairying to supplement their income. Some European countries are specialised in dairying industry. One such country is Denmark.

Dairying has become the chief industry of the nation, Den mark. It ranks first in the world in the production of milk and milk products. There are a number of reasons for her advancement in dairying. It has a mild equable oceanic climate suitable for cattle rearing. Pasture lands are extensive. Dairying is more profitable than agriculture which is difficult for considerable reasons. Nowadays, scientific methods are used even for milking and for making milk products. The government extends its help by means of granting loans. Their industry is well organised on the cooperative basis. The world itself provides a suitable market to consume the dairy products produced in Denmark. Denmark exports more than 80% of milk products to other countries. Holland, Switzerland, France, Sweden, Ireland, Germany and Finland are the other countries practising this industry.

Poultry

As already read, poultry is an allied industry with agriculture. The improved general management and the use of modern scientific methods have resulted a great increase in poultry. The output has increased enormously Almost in all the agricultural nations poultry farms are found. Denmark, Sweden, Hungary, Bulgaria, England, Russia produce

a very good amount of eggs. Denmark leads in producing more eggs.

Fishing

This is the traditional occupation of the people of the world. It has now become a modernised industry. It is the profitable industry of the whole world. Fish is a substitute for wheat and other food varieties in Europe. Look at the important fishing centres of Europe in *Fig. 19.*

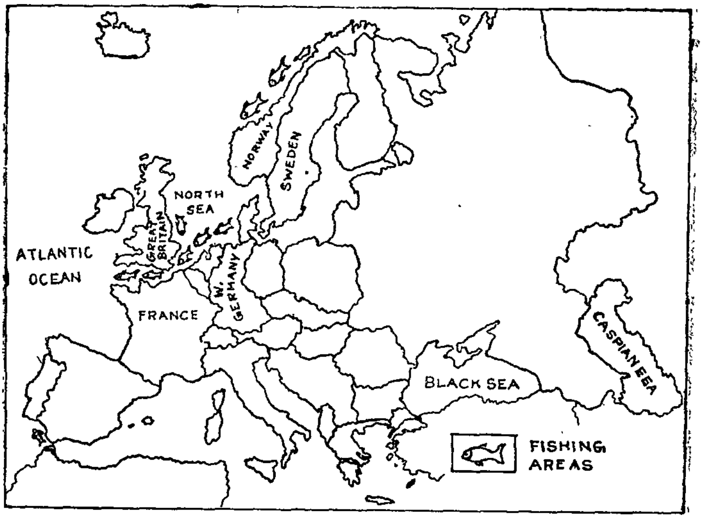

Fig. 19. Europe : Fishing Centres

Fishing is another important industry of Europe next to dairying. The shallow seas, remarkably the North Sea covering the continental shelf around the British Isles are, rich in green plants and tiny organisms called plankton. Plankton is found just below the surface of the water. They form the valuable food for fish. Debris brought down by the rivers also provide best food for fish.

Great Britain occupies an important place in fishing. The long and indented coast lines encourage fishing. The shallowness of the North and Baltic seas is an additional advantage for this industry. The North Atlantic warm water is conducive for fish breeding. Abundant fish like cod, herring and mackeral are caught in the Doggar Bank and in the shallow seas around it.

In England fishing is carried on throughout the year. Aberdeen, Hull Grimsby and Yarmouth are the important fishing centres of Great Britain. It is the major industry of Norway. Deep sea fish are caught by using big trawlers and surface swimming fish by drifters. Bergen and Trondheim are the important centres for fishing. Hammerfest is the leading cod fishing centre. Cod is also caught at Tromso. Norway ranks high in the whaling industry.

France, Holland, Denmark, Iceland, Sweden, Germany, Spain, Portugal and Italy are famous for fishing. The important fishing centres in Russia are the Astrakhan in Black sea region and Archangel, a White sea town.

QUESTIONS

I. Choose the best answers.

1. The staple food of the Europeans is
   - (a) rice.
   - (b) ragi.
   - (c) wheat.
   - (d) greens.
2. In Europe paddy grows only in
   - (a) Tundra.
   - (b) Baltic states.

(c) Finland.

(d) Some regions in Spain and Italy.

3. Large amount of fish is caught in

(a) North Sea.

(b) Baltic Sea.

(c) Black Sea.

(d) White Sea.

II. **Complete the following sentences.**

1. Wheat is cultivated in ——— and ——— seasons in Europe.
2. ——— is known as the granary of Europe.
3. 'Black' bread is made from ———.
4. ——— and ——— are the crops that give fibres to the textile industries.
5. ——— occupies the first place in the dairying industry.
6. ——— is a tiny organism which serves as food for the fish.

III. **Write short answers.**

1. What are the three kinds of agricultural crops ?
2. What is meant by cereals ?
3. What are the Geographical conditions necessary for wheat cultivation ?
4. Which is known as the granary of Russia and why ?
5. Name some countries which practise dairying.
6. What is meant by deep sea fishing ?
7. Mention the important fishing centres of Europe.
8. What are the favourable conditions specially available for the growth of fishing industry in the north west Europe ?

IV. Write long answers.

1. Why does Denmark stand first in the Dairying industry ?
2. Describe the poultry keeping industry of Europe.
3. Describe the Fishing Industry of Europe with a special reference to climatical conditions.

Practical

1. Visit the nearby Dairying Industry and learn its functions.
2. Mark on an outline map of Europe the important fishing centres.

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8. MINERALS

Europe is considered to be the world's greatest mining camp. Of the more important mineral raw materials, Europe's production of iron ore, coal and mineral oil are amounted to be more in recent years. It produces 34·4% of the world's iron ore and leads in the production of coal and lignite.

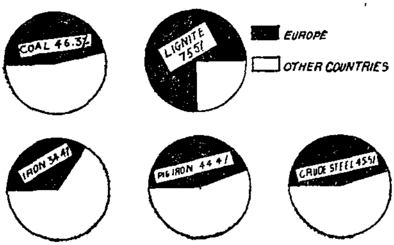

Fig. 20. The share of Europe in the world's production of Iron and Coal.

Iron and coal mining are mostly seen in the Scottish Lowland, South Wales and most of England in United Kingdom and across the English Channel, it includes U. S S. R., France, West Germany, Poland, Belgium and Czechoslovakia.

The outstanding feature of these areas is that it contains both iron and coal. They are also so near to each other So, the iron ore can be brought to the place where the coal is mined at slightest expense.

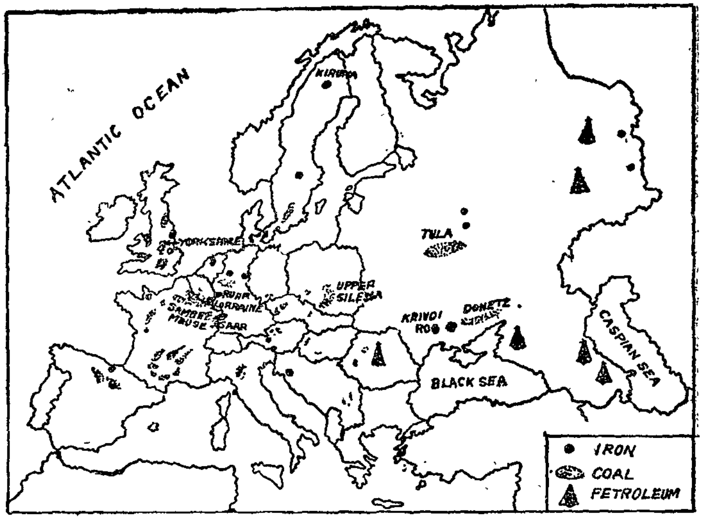

Fig. 21. Europe : Mineral Wealth

Iron is the backbone of modern civilization. Iron is very essential for the development of any country in modern days. With the help of coal, iron ore is smelt and converted into cast iron, steel and pig-iron. Iron ore is found in most of the parts of Europe.

The five outstanding regions of iron ore production in Europe are:

1. U.S.S.R. at Krivoi Rog, Magnitogorsk, Kerch and Telbes near Kurks.
2. Lorraine in the Eastern France.
3. North Spain near Bilbao.
4. Sweden around Donnemora and at Gellivara.

So most of the great iron-fields are located only in countries like U.S.S.R., France, Sweden, United Kingdom, Spain and West Germany. In other parts like Belgium, Poland and Czechoslovakia the production of iron ore is negligible in quantity.

U.S.S.R.

Endowed with the largest iron ore reserves, U.S.S.R. leads the world in annual production. It produces 28% of the world's total. The production in 1978 was 241 million metric tons. The chief areas of iron mining are :

1. Krivoi Rog in the Ukrain : It produces good quality of iron ore. Its production is nearly 85% of all iron-ore produced in the Soviet Union.
2. Orsk and Magnitogorsk in the Urals : It is the biggest iron-ore producing region in Soviet Union. It produces one third of Russia's annual output.
3. Kerch in Crimea: It is responsible for about 5% of the total production.
4. Expensive and low deposits at Telbes near Kurks.
5. Newly discovered areas in central and eastern Siberia.

France

The most productive iron mines of France are located in Lorraine. The iron content in the ore is, however low and much of the ore is smelted near the mines. North of Lorraine in Eastern France has the largest iron deposits in Europe. This region produces three quarters of France's output of pig-iron and two third of steel. France is one of the leading steel exporting countries of the World. It produced 34 million metric tons of iron in the year 1978.

Sweden

Sweden has very rich deposits of iron-ore in Bergslagen in its central parts and near Kiruna in the northern part of

the country. Iron-ore finds here are of the best quality. In 1978 the production was 21 million metric tons of ore. But this country is short of coal and coke. So, at present Sweden is smelting her iron-ores using electricity. The Swedish ores are mostly exported to the U.S.A. and European countries.

United Kingdom

In 1850, United Kingdom produced half of the world's iron and nearly 70% of the steel. In course of years, its share had dropped down and its production of iron-ore from internal sources has fallen down to 4.5 million metric tons in 1964. The main areas of iron-ore production are Cleveland, Midland and Scottish fields. The total output of pig-iron was only 17.5 million tons and that of crude steel was 26.6 million metric tons. Today in the production of iron and steel, the country is surpassed by U.S.S.R., United States and Western Germany.

The chief areas of production are north-eastern and eastern England, accounting nearly half the total output. Middlesborough is the leading centre and the other centres being Newcastle, Leeds and Sheffield.

West Germany

Iron and Steel form the backbone of German Industries. Some iron is found in Sieg Valley. This ore is smelt in the Ruhr steel works. Western Germany stands fourth in the world production of pig-iron and crude steel.

Spain

Spain has large deposits of iron-ore in the northwest near Bilbao on the Bay of Biscay. The Cantabrian region produces most of the output. Iron-ore mined here is exported to United Kingdom and France.

COAL

Europe leads other continents in the production of coal and lignite. The huge deposits of coal make Europe a

thriving continent in Steel and Iron Industries. Coal powered the railway network of Europe and the navies. Its usefulness as an important source of energy has been prolonged in the 20th century by its availability as a generator of electricity in Power Stations.

Types of Coal

Coal can be classified into various types. The major types of coal are: (1) Anthracite, (2) Bituminous, and (3) Lignite or Brown coal.

1. **Anthracite** : It ranks high among the various types of coal. It is a hard coal and is relatively free of moisture. The extent of carbon content is as high as 95%. The major deposits are found in Swansea Valley of South Wales in United Kingdom.

2. **Bituminous** : It has relatively low percentage of moisture content. It is usually black in colour. It is smoky when it burns. This type of coal is classified as (a) Coking coal, (b) Steam coal, and (c) Gas coal.

Coking coal is a dull black substance. It is lighter than coal and has full of small holes. To set fire in coking coal is more difficult. It is mainly used in the manufacture of iron and steel.

3. **Lignite or Brown coal** : This type of coal has high moisture content and low fixed carbon content. It also contains a lot of vegetable matter. It is brown in colour. It is used as an important raw material for chemical industry. It is also used for generation of electricity. The by-products of this type of coal are crude oil, tar and gas.

The major coal producing countries in Europe are (1) U.S.S.R., (2) United Kingdom, (3) Germany, (4) Poland, and (5) France.

U.S.S.R.

The Soviet Union contains 53% of world's coal resources. The greatest power resource of the U.S.S.R. is coal. In 1978, it produced 724 million metric tons of coal occupying the first place in the world as coal producer. This is nearly 20% of the world coal production. The most leading coal fields are (1) Donetz coal basin, (2) Kuznetsk coal basin in West Siberia and (3) Karaganda coal basin. At present Donetz coal basin accounts for about one third of the total output of Soviet coal. It is still the most important coal producing area in European Russia. Kuznetsk coal basin and Karaganda coal basin are famous coal mining centres. The Kuznetsk coal field has got largest reserves of high grade coal deposits in the world. Karaganda coal basin ranks third in the country's output of coal.

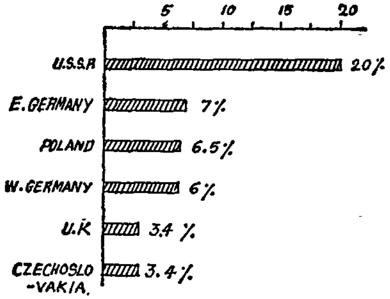

Fig. 22. Country's share in Coal Production

The other coal fields are Tula field near Moscow. The coal find here is low in grade and it is mainly used for heating and lighting. The Siberian coal fields have large reserves but they lie unutilised.

United Kingdom

Coal is the pivot around which the economic life of Great Britain moves. Abundant coal and highly skilled labour are the twin magnets which serve to attract food stuffs and raw materials from all over the world to feed the British workers and British machines. One of the greatest advantages of the

English coal industry is the relatively short land haul either to local markets or to the sea board. She produces about 4% of the total world's production of coal at present.

The chief coal fields are spread in Yorkshire, Derbyshire, and Nottinghamshire. They are producing 45% of the nation's coal. Hard steam coal is mined at South Wales. Anthracite coal is found in north-western England. In Scotland the major coal fields are in Northumberland, Durham and in the Middle Valley.

In 1978, the total production of coal was nearly 122 million metric tons.

Germany

Coal is the key to Germany's material prosperity. It comes fourth in coal production in the world. The output of lignite exceeds the coal output in West Germany. The most important and biggest coal field of Europe is located in the Ruhr. It produces nearly 80% of the total output of coal in Germany. The other coal fields of economic significance in West Germany are in Saar and Bavaria. In East Germany, Saxony is an important coal field. In 1978, the total production of East and West Germany is 467 million metric tons.

Poland

The greatest mineral and industrial assets of Polland are its rich coal and lignite. In the south-west, Upper Silesia is the leading mining and manufacturing region in Poland. Silesian coal field is the second largest in Europe, next only to the Ruhr field. Good steam coals are there in this field. In 1978, Poland produced 234 million metric tons of coal. It is the leading exporter of coal in Europe.

France

North France, the Lorraine region is the leading coal mining area of the country. The coal is useful for steam and

heating purposes. But, most of its coal is consumed locally. It also imports coking coal from the Ruhr fields in West Germany.

But the role of coal began to fall since the middle of the 20th century due to technological changes and the discovery of new energy. The change in energy consumption from coal has been shifted to oil and electricity in railways, shipping fleets and in steel industry The blackening of city buildings and air pollution caused the 20th century man to turn to new and clearer form of energy

OIL

In the modern world oil is considered to be more important than any other minerals. It is largely used as fuel for producing energy. The consumption of oil particularly in Western Europe has increased at an average rate of 10% every year. This is mainly due to the relatively low cost of production of the refined product. The oil as it comes out of the ground, is known as crude oil. Oil is obtained in crude form from underground. It is refined and useful products such as kerosene, diesel, lubricating oils, wax, and petroleum are obtained from it. The most superior grade of oil is petroleum. The by-products of oil are mobile oil, grease, jelly and vaseline.

The world production of crude oil or petroleum is as 3055 million metric tons in 1978.

Europe in general has only limited supply of oil. Its demands are being met by import from abroad. Some of the major oil producing countries are U.S.S.R., Rumania, West Germany, France and Holland.

U.S.S.R.

U.S.S.R. is the biggest producer of petroleum in the world. It produced 572 million metric tons of crude petroleum in 1978, nearly a sixth of the world's output. Baku, Grozny and Kuban are the traditional oil bearing regions of U.S.S.R. Emba,

Pechora, Khatanga and Sakhalin are the other newly developed fields. But the most important oil field of today is the Urals-Volga region. This is known as the 'Second Baku' of Russia. Natural gas is also exploited from oil and natural gas fields. U.S.S.R. stands first in Europe in the production of oil.

Rumania

The second oil producing country in Europe is Rumania. It has her oil wells at the Carpathian foothills. In 1978, the output of crude oil of the country was 15 million metric tons. New oil wells have also been found out recently. Natural gas is also found in Rumania. It stood next to U.S.S R., U.S.A. and Canada in the production of natural gas.

France, Yugoslavia, Austria and Holland are the other European countries which produce some oil. The oil produced by Italy, Hungary, Poland, and Czechoslovakia is negligible in quantity. Large oil discoveries have been made in the North Sea. United kingdom, Norway, Denmark, West Germany and the Netherlands came to an agreement assigning to each of the five countries exclusive right of North Sea areas for exploration and development. United Kingdom got first delivery of petroleum from the small Argyll field of North-eastern coast of Scotland in 1975. Production for 1978 was 53 million metric tons. The North Sea oil will relieve the United Kingdom of too much dependence of Arab oil.

QUESTIONS

I. Fill in the blanks.

1. The highest coal producing area in Europe is———
2. The most important iron field in Europe is———.
3. The country in Europe where abundant petroleum is available, is———.

II. Answer the following questions briefly.

1. Which are the areas in Europe where production of coal is in a large scale ?

2. What are the areas in Europe producing iron ore in large scale ?
3. What are the uses of mineral oil ?
4. How is petroleum formed? What are the major petroleum regions in U.S.S.R. ?
5. Why is the use of electricity considered to be good in the place of coal ?

III. Answer the following questions elaborately.

1. What are the three types of coal ? What are their uses ?
2. Describe the mineral wealth of United Kingdom.
3. What are the differences in the production of food crops and mineral wealth ?
4. Write an essay about the mineral wealth of Europe.

Practical

1. Draw an outline map of Europe and mark the important Iron and Coal fields and the centres of Petroleum.
2. Collect different types of coal.
3. Draw a sketch map of Ruhr valley and mark the important industrial towns in it.

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9. INDUSTRIES

The present century has witnessed geographical concentration of industries in certain parts of the world, notably in West Europe. Western Europe developed the industry on a large scale after the Industrial Revolution in Great Britain. Industrial Revolution was marked by (1) a change in industrial methods, a change from handwork to machine production and the use of power to drive machines and (2) a change in industrial organisation.

The important factors that were responsible for the development of the industry in Western Europe are : (1) the availability of coal. Most of the heavy industries are associated with coal fields. (2) a variety of minerals are available either near the coal fields or in easy reach of the industrial centres. Most of the industries are located either on the coast or nearby or on navigable water ways and rivers. The location of industries in and around ports is clearly linked with the import of raw materials essential to the industry and export of finished goods. Within the industrial region there is a good network of transportation and communication. The region is also well served by waterway.

There are four industrial belts in Western Europe. They are :

1. The industrial belts of Great Britain.
2. The France, Belgium coalfields.
3. The Ruhr-West Phalian region, and
4. The Saxony and Silesian coal fields.

Thus, in Western Europe manufacturing belt starts from Great Britain and extends into France, Belgium, Germany, Czechoslovakia and Soviet Union.

The chief manufacturing industries of Europe are: (1) Iron and Steel Industry, (2) Textile Industry, and (3) Ship-building Industry.

IRON AND STEEL INDUSTRY

Iron and Steel are the important wealth for the development of any particular country. They are the basic materials used in almost every part of industry, transport of all types, construction, engineering etc. They are greatly involved in the pattern of modern industry.

Iron and steel are produced in many countries of Europe such as U.S.S.R., West Germany, United Kingdom and France; they are considered to be the principal industrial countries. The pig-iron and steel production in these countries are shown below in relation to world production.

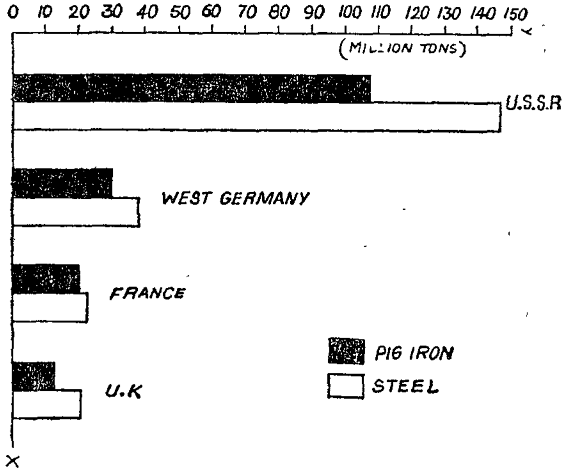

Fig. 23.
Pig-iron and Steel Production in selected countries in 1977.

U.S.S.R.

The principal iron and steel producing areas of U.S.S.R. are :

1. The Ukraine and Rostov Region.
2. The Moscow-Tula Region.
3. The Ural-Kuznetsk Region, and
4. The Caucasus Region.

The Ukraine is the most important region for iron and steel production in U S.S.R. In 1977, it produced about 48% of pig-iron and 40% of steel output of the country. Steel goods and tractors are produced at Rostov in Ukraine. The steel plants are located here both near iron mines and coal fields.

The other centres of Iron and Steel Industry are Moscow, Gorky, Magnitogorsk, Kuznetsk, Karaganda, and Komsomolsk. Kiev, Rostov and Karkov specialise in the manufacture of agricultural implements and Gorky manufactures motor cars.

In 1977, the output of iron and steel in U.S.S.R. was 107·4 million metric tons (pig-iron) and 146·7 million metric tons (crude steel).

West Germany

West Germany is the fourth leading producer of pig-iron and crude steel. She is also the largest consumer of steel in the world. The Ruhr basin is the principal centre of steel industry in West Germany. The major steel producing centres in the Ruhr Basin are Essen, Bochum, Dusseldorf, Dortmund, Solingen and Hagen. The other areas noted for iron and steel production in West Germany are in the Hartz mountains at Saxony and in Upper Silesia.

West Germany is famous in the production of engineering and automative goods. Worlfsburg and Frankfurt are the places noted for motor car industry. West Berlin produces electrical goods and machine tools. Munich is another important city at which Rail Engines are manufactured.

In 1977, West Germany produced about 29·2 million metric tons of pig-iron and 39·4 million metric tons of crude steel.

United Kingdom

The Midland region 'the Black Country' and Birmingham are the centres of iron and steel industry in United Kingdom. North Yorkshire, South Wales, North-western and central valley of Scotland are the other areas. The Midlands iron fields are scattered all around and they favour industrial growth. In 1977 with an output of 20·4 million metric tons of steel and 12.4 million metric tons of pig-iron, United Kingdom ranked eighth among the world steel producers.

Sheffield is famous for motor car manufacturing. Birmingham is noted for motors, cycles and railway equipments. Ridditch is specialised in needles. Harpool is famous for ship-building industry. Middlesborough and Bristol are places where we find engineering works and aircraft industry respectively.

France

France is the seventh largest producer of steel in the world. Her production of crude steel and pig-iron in 1977 were 21·1 million tons and 18·7 million tons respectively. The iron and steel industry of France has developed in the Loraine iron-ore fields and on the Sombre-Meuse coal fields. The chief centres of iron and steel industry are Metz, Briey, Nancy and Longwy.

France produces agricultural machinery, cycles, motor cars and aircrafts.

Italy

Italy is deficient of coal. But she produces large quantities of steel by utilising electricity and importing coal and coke from Germany and Great Britain. The five large coastal integrated plants are at Genoa, Tuscany, Naples, Trieste and Toranto. Italy produces large quantities of high grade steel. Her output of steel in 1977 was 23·3 million metric tons, whereas pig-iron was only 11·7 million metric tons.

She mainly concentrates in manufacturing motor cars, especially race-cars, motor-cycles, electrical goods and heavy generating plants. Pisa is famous for motor cycle manufacturing. Fiat motor-cars are made at Turin.

Belgium, Luxumburg, Netherlands and Spain are the other European countries where the iron and steel industries are found. Poland and Czechoslovakia are important steel producing countries of Eastern Europe.

Nova Huta at Poland and Pilsen at Czechoslovakia are the largest steel plants. These two countries together produced about 32.4 million metric tons of crude steel and 19.7 million metric tons of pig-iron in 1977.

TEXTILE INDUSTRY

Cotton Textile Industry

Cotton is by far the most important and widespread of all textile industries and accounts for nearly 70% of the total textile consumption. Cotton textile industry is usually described as a market-oriented industry.

The important countries producing cotton textile in Europe are U.S.S.R., United Kingdom, France and Italy.

Production of Cotton Yarn and Fabrics in European Countries in 1977

Country	Cotton Yarn ('000 M. Tons)	Woven Cotton Fabrics (Million Metric Tons)
United Kingdom	125·5	368
Czechoslovakia	125·9	533
U.S.S.R.	1597·3	7461 (Million sq. metres)
Yugoslavia	120·9	384 ,,
Rumania	171·0	703 ,,
France	237·6	182·4 ,,
Italy	211·7	131·5 ,,
Spain	65·5	126·2 ,,
West Germany	177·6	169·7 ,,

United Kingdom : Great Britain is the birth place of modern cotton textile industry. The British cotton textile industry is located in Lancashire and the adjoining areas. The moist climate of the region due to moist westerlies, the presence of coal and water power nearby, the existence of a first class port in Liverpool, supply of soft water from the

streams of the Pennines for dying and bleaching and the inherent skill of the local workers favoured the region to locate the industry in and around Lancashire.

The industry is also located at the Lower Clyde area. Glasgow and Paisley are the chief industrial centres. Paisley specialises in the manufacture of thread. Nottingham, another centre, is primarily concerned with the manufacture of lace and hoisery.

U. S. S. R. : It is the world's second largest producer of cotton textiles, producing about 7,200 million sq. metres of woven cloth every year. Cotton mills have developed in Caucasus, Western Siberia and in Ukraine regions. Moscow, and Ivanovo districts are great producers of cotton textiles. The most important spinning and weaving centre of the country is Ivanovo. In 1977 Soviet Union produced 1597 million metric tons of cotton yarn and 7461 million sq. metres of woven fabrics

West Germany : In this country cotton textile industry is widely spread through out the country. But they are particularly important in Ruhr coal field and Saxony regions. The other important centres are Bremen, Elberfield, Munchon and Gladback.

France : The French cotton textile industry began in Alsace. Today this industry is located on the northern coal field at Lille, in and around Rouen, at Nancy, Belfort and Mulhouse.

Italy, Switzerland, Spain and Poland are the other European countries where the cotton textile industries are in existence.

Woollen Industry

The woollen textile industry plays a much smaller part in the world economy than the cotton textiles. Wool, the most

important raw material for the industry, is obtained from domesticated sheep. In Europe this industry is mainly confined to the United Kingdom, U. S. S. R., France and Germany.

United Kingdom : Britain is noted for the high quality of woollen fabrics. She is an important producer of woollen textiles. The West Riding of Yorkshire is the major woollen industrial centre of Britain. Other important centres are Bradford, Huddersfield and Leeds. The Tweed valley of Scotland, Lancashire and Southwest England are the minor areas for the woollen textile industry. Britain produced 186·8 thousand metric tons of woollen yarn and 143 million sq. metres of woollen fabrics in 1976.

U.S.S.R. : The Soviet Union is the world's largest producer of woollen fabrics. Moscow and Leningrad are the old centres of woollen production. Kemenchug and Kharkov are the important centres. In 1976, U.S.S.R. produced 428.5 thousand tons of woollen yarn and 986.0 million sq. metres of woollen fabrics.

France, Germany, Poland, Italy and Czechoslovakia are the other European countries having woollen textile industries.

Silk Industry

Silk is the most expensive textile. The chief raw silk producing countries of Europe are Italy, France and Germany.

The chief centres of silk industry are located at Milan, Camo and Bergamo in Italy. Italy is the chief exporter of silk.

Lyons district is the principal silk manufacturing centre in France. Krefeld, Munchen-Gladbach and Rheydt are the important manufacturing centres in West Germany.

Artificial silk has become a competitor to natural silk. The artificial silk is produced chemically from cellulose obtained from saw dust or wood pulp and cotton waste. The United Kingdom and Germany are the chief producers of artificial silk. Nylon made from coal-tar, terylene, a synthetic fibre are man-made fibres.

SHIP-BUILDING INDUSTRY

The ship-building industry is mainly concerned with making steamers and tankers. For the location of ship-building industry deep navigable water and a large level land nearby are essential. Further, the availability of cheap raw materials, cheap labour, adequate supply of capital and a large market are essential for its development. The principal ship-building countries of Europe are Sweden, the United Kingdom, West Germany, France, Italy, Poland, U.S.S.R. and Netherlands.

Sweden

Sweden surpassed the countries like Great Britain and West Germany in 1965 and became the world's second largest producer of ships. But, in 1968 she was surpassed by West Germany and Sweden became the third largest producer of ships.

She has made a great contribution to technological progress and has been largely responsible for the development of marine diesel engine of more than 20,000 horse-power. Goteburg and Malmo are the important centres of ship-building industry in Sweden.

United Kingdom

Great Britain was the pioneer of modern ship-building industry. The deep tidal estuaries, the iron and

steel industry, the position and climate are the chief geographical advantages of ship-building industry in England.

Clyde, Glasgow, Newcastle, Sunderland, Hartlepool, and Middlesborough are the main centres of ship-building industry in United Kingdom. The subsidiary centres are Goole, Dundee, Aberdeen and Lieth. Ship repairing industries are located at Belfast, Liverpool and London.

France

France ranks fifth or sixth among the ship-building nations of the world. The leading centres are in the Loire estuary, Nazaine and Dunkirk. Brest, Lorient and La Seyne are other important centres. All these build merchant vessels and naval craft. Bologne, Rouen, Rockfort and Bordeaux are the smaller shipyards of France.

U.S.S.R.

Ship-building industry in Russia is becoming more important today than any other time in her history. Climate is the chief handicap. Black Sea region is geographically ideal. Leningrad, Riga, Odessa and Vladivostok are the important centres of ship-building industry in U.S.S.R.

The Netherlands, with ship-building and repair yards at Rotterdam and Amsterdam, is also a great ship-building nation. In Northern Holland there are many small boat-building yards making small coasting craft and fishing vessels. It has a great reputation for quick and efficient ship-repairing. It has begun increasingly specialising in the ship repairing industry.

The other important ship-building centres in Europe are located at Norway and Copenhagen and Odeus in Denmark.

QUESTIONS

I. Fill in the blanks.

1. The city famous for Textile industry in United Kingdom is ———.
2. Terylene is manufactured from———.

II. Choose the correct answer.

1. The famous place for the production of cars in Soviet Russia is

   (a) Kiev (b) Gorky (c) Karkov (d) Moscow.

2. The country which occupies the first places in the ship-building in Europe is

   (a) Sweden (b) West Germany (c) United Kingdom (d) France.

III. Answer the following questions briefly.

1. What are the chief manufacturing industries of Europe ?
2. What are the natural conditions favourable for the development of cotton textile industry ?
3. Name four important centres of cotton textile industry in Europe.
4. In which parts of Europe woollen industries are found ?
5. What are the European countries where silk industries are famous ?
6. How is the artificial silk manufactured ?
7. What are the European countries famous for ship-building industry ?

8. Which is the famous place in Europe for ship repairing ?
9. Write short notes on Glasgow, Lyons, Leeds.
10. What are the four important countries in Europe which are famous for Iron and Steel Industries ?
11. Mention the places where the Iron and Steel Industries are flourishing in U.S.S.R., West Germany and U.K.

IV. Answer the following questions elaborately.

1. How is Lanchashire specially suitable for the growth of textile industry ?
2. How are the geographical factors favourable for the large scale production of wool in Russia ?
3. What are the important factors responsible for the industrial growth of a country ?
4. What are the special facilities needed for the growth of ship-building industries ?

Practical

Mark the following in the map of Europe :

1. The centres of Iron and Steel Industries.
2. The centres of Cotton Textile Industries.
3. The centres noted for Ship-building Industries.

10. EUROPE'S POPULATION

Density of Population

The ratio of people to unit of land area is generally known as 'Density of Population'. Density of population establishes quantitative relationship between the number of

people and number of units of land area. It is obtained by dividing the total population by total land area, the quotient being the number of people per sq.km.

The continent of Europe has the highest average density of population in the world. Europe, exclusive of Soviet Union, has the total population of 480 millions. This is about 11.5% of the world's total population in 1978. The U.S.S.R. has a population of about 262 millions in 1978. Europe ranks the second largest populous continent in the world.

U.S.S.R., W.Germany, the United Kingdom, Italy and France are the most populous countries in Europe. The distribution of population varies according to relief, climate and agriculture and industrial developments.

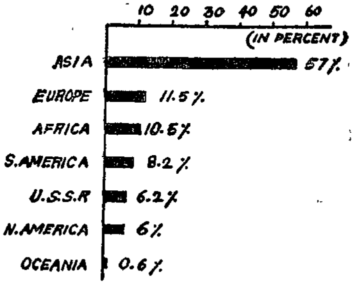

Fig. 24. Distribution of World Population in 1978.

Some areas like North-western Europe including Scandinavia, Finland and Scotland have lesser density of population. This is due to their irregular relief and lower birth-rate. There are some other parts in Europe having high density of population. High density is due to their high degree of industrialisation and availability of natural resources and efficient means of communication. The Netherlands and Belgium are the densest areas in Europe as well as in the world. The average density of population in these two countries are 342 and 322 people per sq. km. respectively.

High concentration of population is generally around the coal fields and the centres of international commerce.

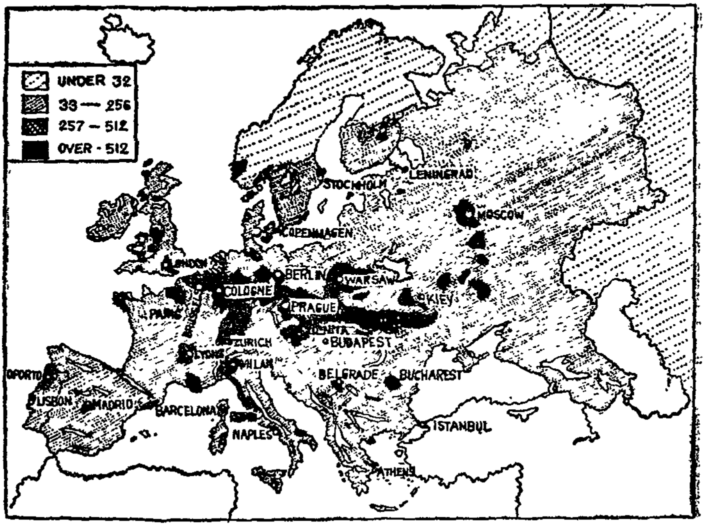

Fig. 25. Europe–Distribution and Density of Population

Areas of High Density

The most densely populated areas of Europe are :

(a) Ukraine region in South Russia.

(b) Franco-Belgium Coal region.

(c) Ruhr Coal field area : These areas are due to coal fields located there.

(d) European plains from France.

(e) The Rhine valley : Here it is due to the importance of the river and the agricultural wealth of its valley.

(f)	The North Italian plain	: Due to industrial development and intensive agriculture.

(g) The Greater London and the surrounding region.

(h) The coast lands of Belgium and Holland.

(i) Most of the Mediterranean coast lands of Spain and Italy.

Areas of less density

There are three types of regions, which have less density of populations. They are:

(1) The Tundra, (2) Mountainous areas with cold, dampness and inaccessibility. (*e.g.*) The mountains of Scandinavia and the higher parts of the Alps, Carpathians and Caucasus mountains, (3) The semi-arid lands of South East Russia. Lack of moisture, here hinders production and settlement.

Factors Influencing the Density of Population in Europe

The general features of the distribution of population in Europe are related to the climate, mineral wealth, topography and soil. The areas that are too cold are sparsely settled. The areas that are too wet or too dry are almost sparsely peopled. The largest area of dense population occurs chiefly in or near the great coal fields.

In other words, the distribution of population in Europe varies chiefly with agricultural possibilities, industrial possibilities and commercial possibilities.

Urbanisation

The movement of people from an isolated, rural mountain or upland environment towards the more favoured industrial regions is known as 'urbanisation' or 'urban concentration' and 'rural depopulation'.

It has been generally observed that human beings have a tendancy to concentrate in only those favourable areas which provide them an easy livelihood and greater comfort. Generally towns and cities have the expected goods, services and employment opportunities. So, people move from the rural areas to the towns and cities and settle there. Such process of urbanisation has been going on in European countries for over a century. New cities and towns thus sprang up due to the new settlers.

The demand for more housing, schooling and medical facilities increased. In course of time seeking employment becomes a problem. Thus, urbanisation of people resulted in over-crowding in a particular area. This in turn resulted in environmental pollution of air, water etc. That in turn has led to diseases, unemployment, crime etc. Problems of sanitation, hygiene and lighting arose. These problems were solved by the European countries by special measures. Now the fast expansion of cities in Europe, made the people move to the outskirts of the bulging cities.

The people of Europe

In Europe there are three sub-divisions of the white race known as (1) the Nordic race, (2) the Mediterranean race, and (3) the Alpine race.

1. **The Nordic race :** The Nordic people are tall, fair haired, blue eyed, fair complexioned people with long skulls. They are found in the North-western parts of Europe, in Denmark, North Germany, Holland, Scandinavia and Britain. Their characteristics are their inventive genius and their energy and ability to plan and carry out through great schemes.

2. **The Mediterranean Race :** The Mediterranean people have long skulls, but they are shorter, dark of hair and complexion and brown eyed. They are found in all countries bordering the Mediterranean sea, but also occur in small numbers in the west of Ireland and the west of Scotland. It is said that they are the people from Africa who entered

Europe and settled around the Mediterranean sea. In these people the poetic and artistic temperament is highly developed.

3. **The Alpine Race :** The Alpine people are medium to dark in colour, have broader skulls, and are more stoutly built than the Nordic and the Mediterranean types. They are found chiefly in the mountainous areas of central and eastern Europe. Their salient characteristics are patience, perseverance and a capacity for hard work. These people came from central Asia and settled in the upland regions in early days.

Other Races : There are people belonging to other races also. They are Slavs, the Jews, the Mongolians, the Magyars, the Finns and the Lapps. The Slavs of Eastern Europe are a branch of the Alpine race and they appear to have originated from the north east of the Carpathians. During westward migration the Slavs divided into two streams. One followed the route of the North of the carpathians and formed the North Slav group. The group includes the Czechs, Slovaks, Moravians, Ruthenians and Poles.

The stream followed the route of south of the Carpathians formed as the South Slav group. This group includes Croats, Slavonians, Bulgarians etc.

A third stream spread north-eastwards into Russia where Slav people make up more than three quarters of the total population. But the north of Russia is inhabited by the Lapps and Finns and to the south the Turks show some traces of Mongolian origin.

In the Hungarian plains, separating the North and South Slavs are the Magyars of Hungary, decendants of Steppe people from Asia.

Appendix

AREA AND POPULATION OF COUNTRIES IN EUROPE (1978)

	Country	Capital city	Area (in sq. kms.)	Population (in thousands)	Density (per sq. km.)
1.	Albania	Tirana	28,748	2,608	91
2.	Austria	Vienna	83,853	7,508	90
3.	Belgium	Brussels	30,513	9,840	342
4.	Bulgaria	Sofia	1,10,912	8,814	79
5.	Czechoslovakia	Prague	1,27,881	15,138	118
6.	Denmark	Copenhagen	43,075	5,104	118
7.	Finland	Helsinki	3,37,032	4,752	14
8.	France	Paris	5,47,026	53,278	97
9.	Germany E.	Berlin	1,08,179	16,756	155
10.	Germany W.	Bonn	2,48,651	61,310	247
11.	Greece	Athens	1,31,944	9,360	71
12.	Hungary	Budapest	93,033	10,685	115
13.	Iceland	Reykjavik	1,03,000	224	2.1
14.	Ireland	Dublin	70,283	3,311	47
15.	Italy	Rome	3,01,225	56,697	188
16.	Luxembourg	Luxembourg	2,586	356	138
17.	Malta	Valletta	316	340	1,076
18.	Netherlands	Amsterdam	40,844	13,986	342
19.	Norway	Oslo	3,24,219	4.059	13
20.	Poland	Warsaw	3,12,677	35,010	112
21.	Portugal	Lisbon	92,082	9,798	106
22.	Rumania	Bucharest	2,37,500	21,855	92
23.	Spain	Madrid	5,04,782	37,109	74
24.	Sweden	Stockholm	4,49,964	8,278	18
25.	Switzerland	Bern	41,293	6,337	153
26.	United Kingdom	London	2,44,103	55,822	229
27.	Yugoslavia	Belgrade	2,25,804	21,914	86
28.	U.S.S.R.	Moscow	2,24,02,200	2,62,442	12

QUESTIONS

I. Choose the correct answer.

The European city which has the highest density of population is

(a) London, (b) Copenhagen, (c) Rome, (d) Paris.

II. Answer the following questions briefly.

1. What is meant by 'Density of Population' ?
2. Mention the areas with the highest density of population and the areas with the lowest density in Europe.
3. Explain why Europe is the most densely populated continent.
4. Why is the growth of population to be controlled ?
5. What is meant by 'Urbanisation' ?

III. Answer the following questions elaborately.

1. What are the different races of which the peoples of Europe are composed ? In what parts of Europe do we see these racial groups now ?
2. Why is the density of population very high in certain places ?
3. What are the implications of high growth of population ?

Practical

Draw a map showing the distribution of population in Europe.

11. NATURAL DIVISIONS OF EUROPE

Location and Geographical Divisions

Location : The continent of Europe is situated between 36° N and 71.8° N Latitude and 10° W and about 65° E Longitude. It is bounded by the Arctic Ocean on the North, the Atlantic on the West and the Mediterranian Sea on the South. On the East, it has no well defined boundry.

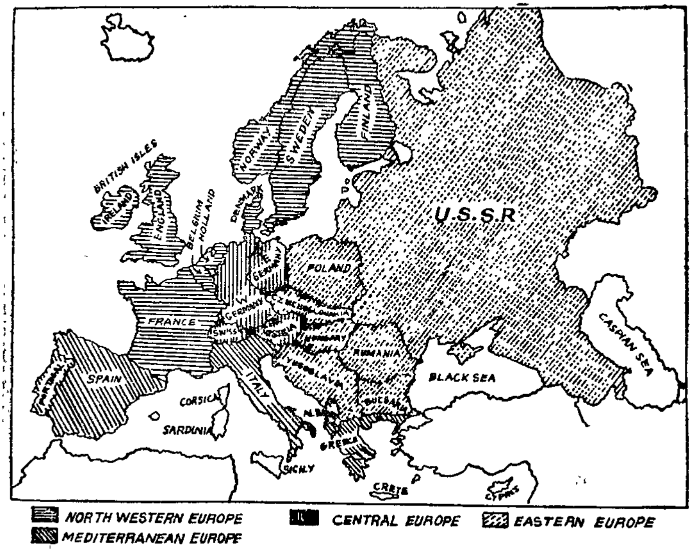

Fig. 26 Europe: Geographical Divisions

Geographical Divisions: Europe is divided into four Major Geographical divisions. They are : (1) The North Western Europe including the Scandinavia, (2) The Mediterranean Lands or Southern Europe, (3) Central Europe, and (4) Eastern Europe including the U.S.S.R.

1. (A) The North Western Europe : The North Western Europe consists of six countries namely Finland, Denmark, Holland, Belgium, France and the British Isles. These countries generally enjoy a mild climate with cool summers and warm winters.

(B) Scandinavia : Scandinavia comprises of Norway and Sweden. The climate that we find here is mild, humid and cloudy with warm winters.

2. The Mediterranean Lands *or* **Southern Europe :** Southern Europe consists of five countries such as Spain, Portugal, Italy, Greece, and Albania. Mediterranean type of climate *i. e.* hot and dry summers and rainy winters, prevails in these countries.

3. Central Europe : Central Europe is a land of contrasts. It has lowlands as well as high lands. It comprises of West Germany, East Germany, Switzerland and Austria. Both continental climate and oceanic climate prevail in these countries.

4. Eastern Europe : Eastern Europe consists of the U.S.S.R., Poland, Czechoslovakia, Hungary, Rumania, Bulgaria, and Yugoslavia. The climate that prevails here is the continental type.

NORTH WESTERN EUROPE

Finland

Finland has nearly a fifth of its northern territory lying within the Arctic Circle The country comprises thousands of islands in the Gulf of Finland and Bothnia. In size it is comparable to the State of Rajasthan. Nearly a ninth of its total area is occupied by lakes and rivers. There are about 55,000 lakes in this country and so the country is called as 'Land of thousand lakes'. The land can be divided into three geographical regions *viz.* Lapland, the Central Lake region and the Baltic Lithral region.

Lapland is a high and rugged area, covered with poor tundra vegetation in the north and tiga vegetation in the south. The central lake region is a land with thousands of lakes, swamps and hills. The important agricultural and industrial region of Finland is the Baltic Lithral region. It has fertile soil of clay and silt.

Helsinki, the capital city of Finland is situated on the southern shores. It is able to see the sunshine during the whole month of December for not more than a total period of 17 hours.

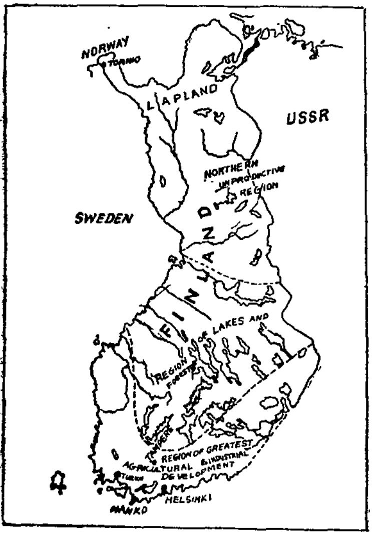

Fig. 27. Finland—Economic Divisions

The forests of Finland are called as 'Finland's green gold'. Nearly 70% of its total area are under forests. Timber cutting is done here during winter. The main agricultural pursuit of the people is dairying. It produces nearly 3.8 million tons of milk. The agricultural crops are rye, oats, barley, potatoes, wheat and sugar-beet.

The major industries of the country are wood and paper and metal engineering. Industries mainly depend upon electricity.

The capital city of Finland, Helsinki, is a highly industrial and manufacturing centre.

Denmark

The kingdom of Denmark comprises of the Peninsula of Jutland, the island of Zealand, Funan and Bornholm and 480 smaller islands, between the North sea and the Baltic.

The total land area is 43,075 sq. kms. It has the population of 5.1 millions (1978). It is one of the most thickly populated country. Out of 480 islands, only a hundred of which are inhabitated. It has rather uneven surface of land. The soil of the country is very poor on the western part and relatively more fertile on the eastern part of the country.

Denmark enjoys a temperate climate. There is little variation between day and night temperatures. The mean annual rainfall of the country is 60 centimetres.

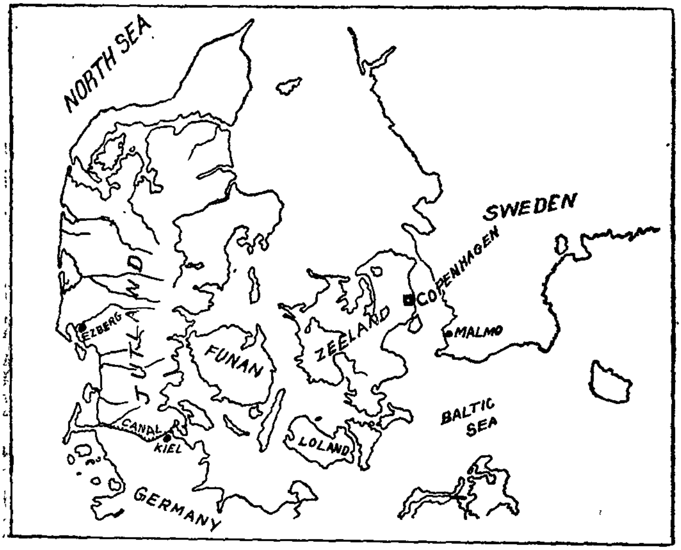

Fig. 28. Denmark

The traditional industry of the country is agriculture. Nearly 69 percent of the land area is devoted for agriculture.

Though this percentage has been declining recently, the intensity of farming has to a large extent maintained the level of production. Agriculture in Denmark is organised on co-operative basis. The co-operative societies of the farmers not only market their produce but also conduct researches. They include poultry, dairy and other animal products. The principal agricultural crops are root crops, barley and wheat.

The major industries of the country are food-processing, beverages, fishing, ship-building, engineering and chemical. Recently Danish designed furnitures, textiles and metal goods have been finding larger markets abroad. An encouraging oil-find in the Danish sector of the North sea was announced in 1975.

Bacon, beef, butter, cheese, canned-milk and eggs are the important exports of Denmark. It imports raw materials, fertilizers, fuel etc.

Copenhagen is the capital city of the country. The density of population here is high. It is one of the finest ports and attractive cities of Europe. Other important cities of Denmark are Aurhus, Ezberg and Odense.

Holland

Holland, otherwise called as Netherlands, is situated on the Rhine delta. On the west and north it is bounded by the North Sea, on the east by West Germany and on the South by Belgium. The country has the land area of 40,844 sq. kms. with a population of 14 million people in 1978. It has the highest density of population in the whole of Europe.

The country is divided into three geographical regions, namely the Dunes, the Polders and the Eastern Uplands. The sand-dunes of the country protect the alluvial lands in the east from the high tides of the North Sea.

The alluvial low lands, reclaimed from the sea are called as Polders. The polders form the most important asset of the agricultural Netherlands. Nearly 40 percent of the country is below the sea level. The lowest point in the country is about seven metres below the sea level. The lands below the sea level are protected from the sea through dikes.

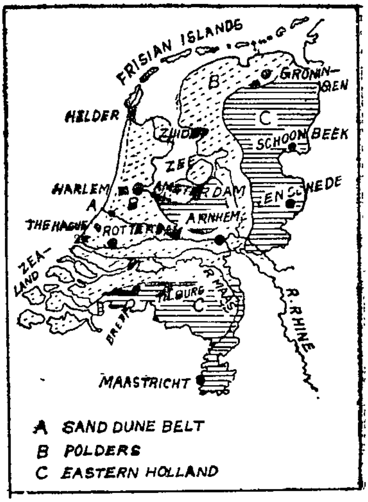

Fig. 29. Holland—Natural. Divisions

The climate of the Netherlands is very mild winter and cool summer. The average rainfall is about 70 centimetres.

The Netherlands is a land of very intensive agriculture and so the yields here are very high. The major crops produced here are wheat, oats, barley, rye, potatoes and sugar beet. The major part of its agricultural exports consists of dairy products, famous all over the world. It leads the world in the export of condensed milk.

The Netherlands is an equally important industrial nation. The country has well developed in metallurgical industry. It produces electrical goods of high quality. It is the second largest exporter of electrical bulbs. The famous Philips Electrical company belongs to this country. Textiles and chemicals are the important industries of the country. The country has a big petroleum refining industry.

Amsterdam is the constitutional capital of the Netherlands. But the seat of its government is located at The Hague. The International court of Justice has also been located at 'The Hague'.

Belgium

Belgium is a small country. It has a land area of 30,513 sq. kms. with a populatiôn of 9.8 millions (1978). It is one of the densely populated countries of the world. On an average there are 320 persons per sq. km.

The climate of the coastal region is mild and humid. In the interior it has mild summers alternate with cold winters. The mean annual rainfall of the country is 65 centimetres.

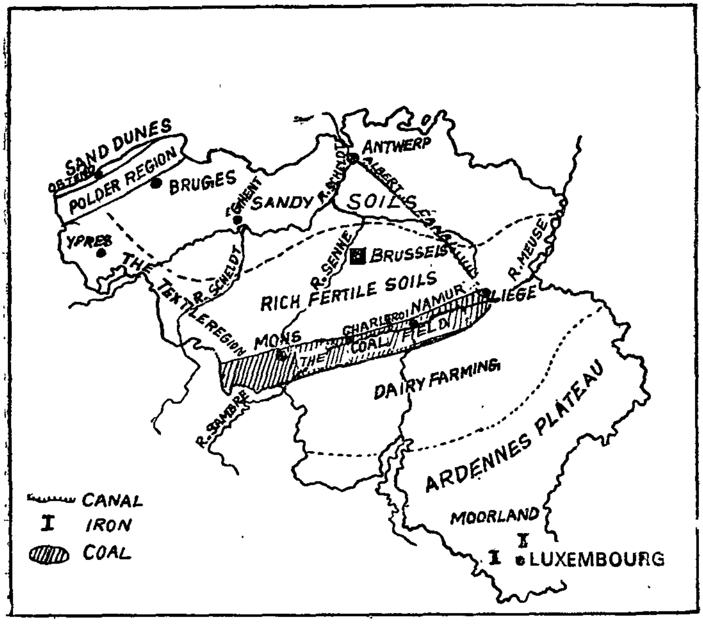

Fig. 30. Belgium—Natural Divisions

Cultivation is practised in nearly one third of its land area. The chief agricultural products are wheat, oats, pota-

toes and sugar-beet. Amidst the agricultural activities Animal Husbandry is an important one. Belgium is one of the most industrialised countries in the world, in spite of its poor resources.

The country produces metallurgical goods, finished steel and railway equipments. It is noted for fertilizers, glassware, and plastics.

'Brussels' is the capital city of Belgium. 'Antwerp' is another important city famous for diamond cutting. It is also a leading port. It is connected with Liege, an industrial city by Albert canal. Coal is mined in the Sambre-Meuse valley. Mons, Charleroi and Namur are some of the important mining and manufacturing towns along this valley. Iron ore is mined at Luxembourg.

France

The French Republic is situated in the Western Europe. It is bounded to the north by the English Channel, to the east by Belgium, Luxembourg, the Federal Republic of Germany, Switzerland and Italy, to the south by the Mediterranean and Spain and to the west by the Atlantic Ocean. Next to USSR, it is the largest country in Europe. The land area of France is 5,47,026 sq. kms., and its population is 53.2 millions (1978).

Climate is temperate but in the south it enjoys Mediterranean type of climate with mild and showery winter and dry summer. The Rhone, the Loire, the Garonne and the Seine are the important rivers of France.

France is the leading agricultural country in Western Europe. More than three fourths of its land area is under cultivation. The Loire Basin produces huge quantities of wheat and other food grains rather than other areas in France. Therefore it is called as 'Granary of France'. The major productions of France are wheat, rice, potatoes, fruits, vegetables, cheese and butter. French wines are an important export.

France specialises in wine production. Grapes, raisins and barley are the raw materials from which a wide variety of wines are produced. Animal husbandry is an important sector of French agriculture.

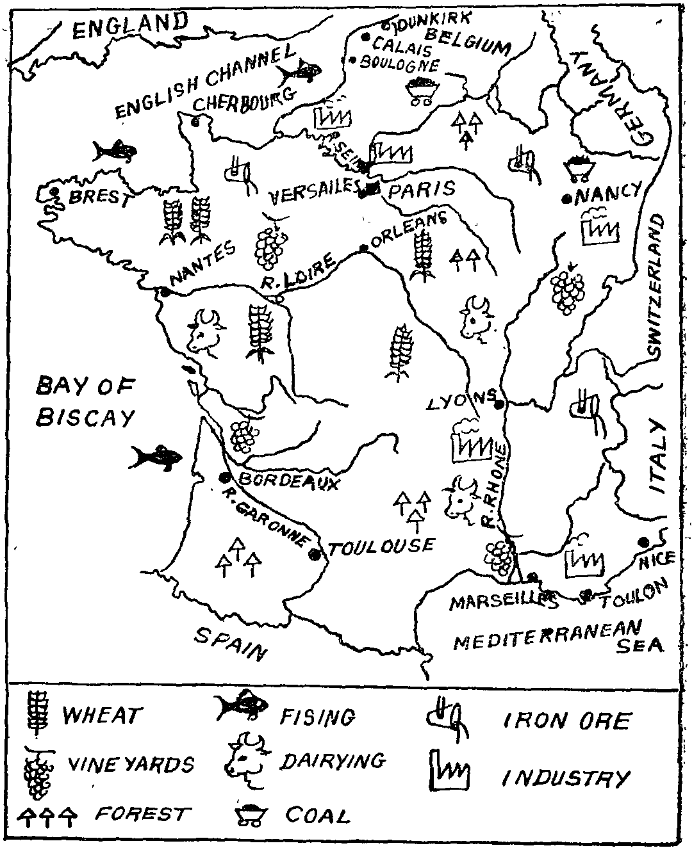

Fig. 31. France—Economic Activities

Iron and steel manufacturing is the leading industry of France. France is one of the leading steel exporting countries. It is also one of the important producers of cars and commercial vehicles. France produces aluminium on a fairly large scale.

The French aircraft industry ranks high in the world. Recently it has developed her chemical industry and industries of electrical goods and electronics. Clocks, watches and leather goods are also produced in France.

The capital city of France is 'Paris'. It is a historic city, famous for its great beauty and fashion. It is the centre of automobile industry. It also manufactures fashionable dresses and excellent perfumes and essences. Other important cities of France are Marseilles, Lyons, Toulouse and Nice. Marseilles is an important sea port. Lyons is famous for silk fabrics.

The British Isles

The British Isles consists of nearly 5,000 islands and islets. Great Britain and Ireland are bigger than others. Great Britain consists of England, Wales and Scotland. Thus the British Isles consists of two sovereign states namely (1) the United Kingdom of Great Britain, and Northern Ireland and (2) the Republic of Ireland. Eire is the other name for Ireland. The British Isles is surrounded by sea in all sides. It is located on the busy cross roads of international trade routes.

The United Kingdom

The United Kingdom is situated on the continental shelf The coast on all sides is indented and forms several natural harbours of big and small in size.

Great Britain has highlands or uplands but not mountains as such. The highlands are highly glaciated and the lowlands are covered with glacial drift. Northern Ireland has low plateaus and hills.

The country enjoys delightful oceanic climate. The Atlantic drift and Westerlies cause the climate warm at its latitudes. The temperature gradually decreases from south to

north. The scanty sunshine is yet another feature of the English weather. On an average the sunshine ranges between half an hour to two and half hours during winter.

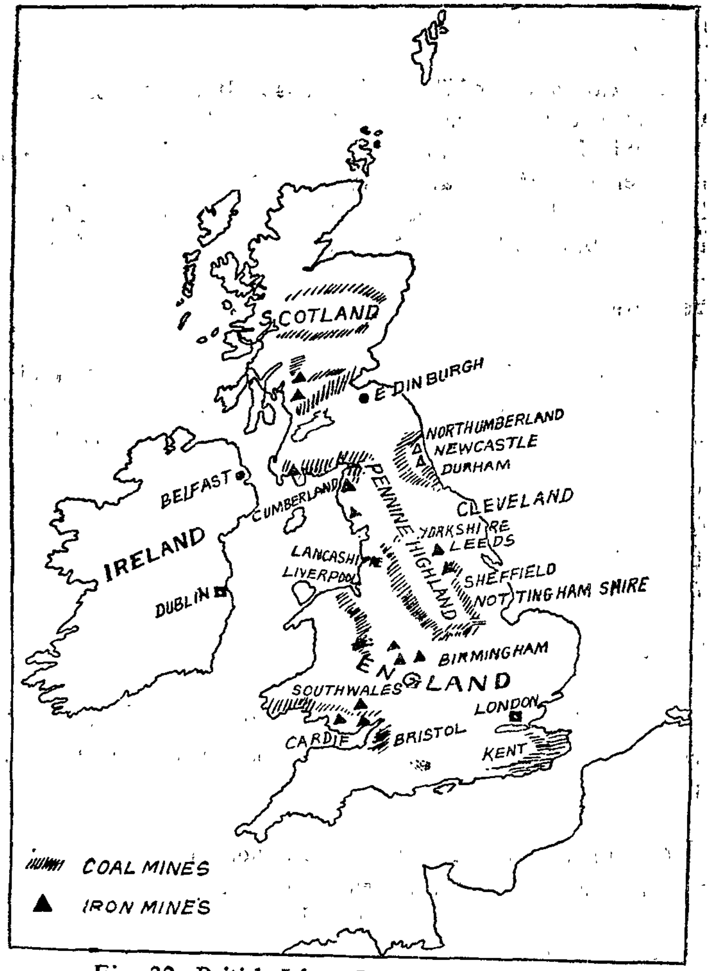

Fig. 32. British Isles—Iron and Coal Fields

The total land area of the United Kingdom is 2,44,103 sq. kms. with a population of 55.8 millions with an average density of 229 persons per sq. km.

About 30% of the total land area of Great Britain is utilised for cultivation. Barley, wheat, oats, potatoes and sugar beet are the major agricultural crops as in France.

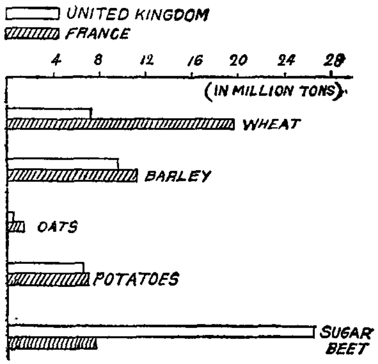

Fig. 33. Agricultural Production of U.K. and France

Fishing is famous in Great Britain. The ocean currents and the rivers falling into the North Sea ensure constant supply of fish food, plankton. The sea is shallow around the country not less than 100 metres deep. These factors favoured the English for fishing. The Dogger Banks are the principal fisheries of the eastern coast of Great Britain. Cod, haldock, sole, herring and mackerel are some of the varieties of fish find here.

Coal and iron ore are mainly responsible for the rapid and early industrialisation of the United Kingdom. The important items of industries are textile, ship-building, metal goods, chemicals, electrical goods, machinery etc.

London is the capital city of Great Britain. It is connected by air with almost every major city of the world. It is situated on the banks of the famous river 'Thames'. The Thames is an important navigable river of the country.

The other important cities of United Kingdom are Oxford, Cambridge and Edinburg. Two world famous Universities are located at the first two cities, and Edinburg is the capital city of Scotland.

Great Britain has many natural ports and harbours. They help the country to a great extent for the development of trade with other countries. The important ports of the country are London, Cardiff, Liverpool etc. Birmingham, Glasgow and Coventry are the important industrial cities of United Kingdom.

SCANDINAVIA

Scandinavia is in the north-western part of Europe. It lies between the Baltic sea and the Gulf of Bothnia in the east and the Atlantic ocean on the west. This peninsula comprises of two countries *viz*. Norway and Sweden.

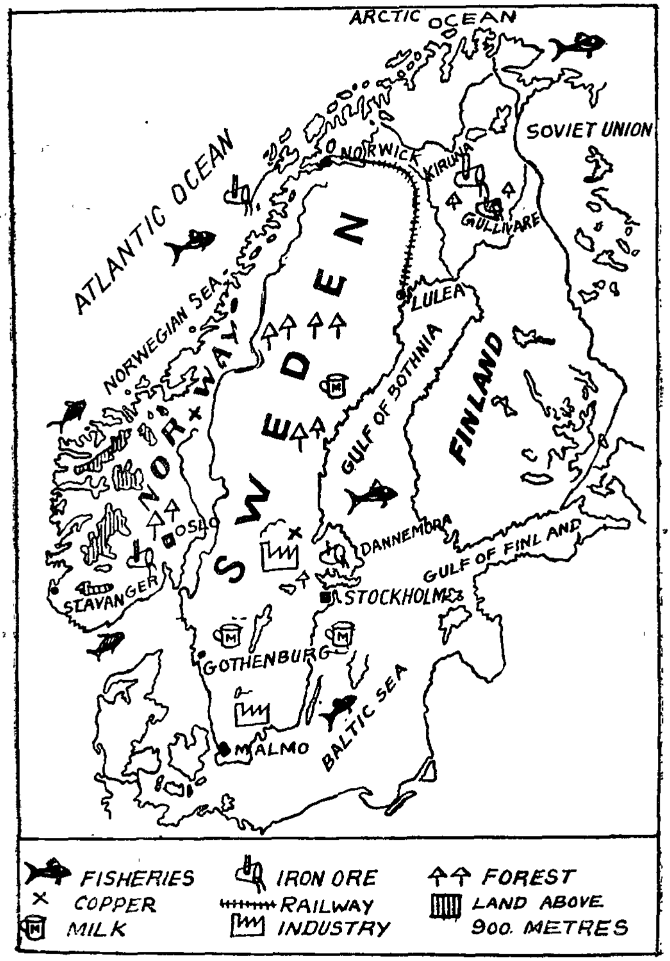

Fig. 34. Scandinavia—Economic Activities

Norway

Norway forms the western part of the Scandinavian Peninsula, bordered to the east by Sweden. Her long indented coast faces the Atlantic ocean. The country enjoys temperate climate on the west coast but colder inland.

Norway has a 'fiord' coastline. The 'fiords', the long, narrow, steep-sided indentations deepened by glacial action, are U-shaped drowned valleys. The coast of the country is 3,400 kms. long. The calm waters of the fiords has fostered a love of sea-faring. The people of these coastlands are primarily engaged in fishing.

In spite of its northerly position, coasts of Norway are always ice free. This is due to the warming influence of the South-west winds (Westerlies) from the Atlantic and to the North Atlantic Drift. The rainfall of Norway is heavy. Another important factor of the country is the length of the Summer days. At North Cape there is a continuous daylight for more than two months. So, Norway is called as 'the land of the Midnight Sun'.

The total land area of Norway is 3,24,219 sq. kms. She has a population of 4 million people. About 78% of the total land area is a rocky waste land. The geographic structure and the climate of Norway make farming difficult. Less than 3% of the land surface is cultivated. The chief agricultural crops of the country are hay, rye, oats, barley, wheat, potatoes and beet. But the Norwegians have naturally turned to the sea for their living and for supplementing their income.

Norway's fishermen, operating mainly in small undecked boats, take 5% of the world's catch. Fish is the major export of the country. Dairying and animal husbandry are also important agricultural activities of Norway.

The country has rich mineral sources, especially iron ore and copper. Industries in Norway are mainly based on raw materials produced within the country and on water power. Norway has many advantages for the development of her

hydro-electric power. The rainfall is fairly evenly distributed through out the year. The rivers maintain a constant flow of water. There are also many waterfalls. The rivers are swift flowing and do not often freeze in winter. Hydro-electric power is most intensively developed in South Norway near the capital, Oslo.

Besides, the forests of the country serve as a source for its industrial products such as timber, woodpulp, paper, matches and cellulose.

'Oslo' is the capital city of Norway. It is situated at the Southern lowland of Norway. It is the most important manufacturing region with paper mills and metal engineering plants.

Sweden

Sweden is the eastern portion of the Scandinavian peninsula. Most of her coast line faces the Baltic sea on the south. Sweden differs from Norway in many ways. She is larger than Norway in her area. A quarter of Norway is forested and over a half of Sweden is forested. Sweden has a greater extent of lowland than Norway. The climate at Sweden is not so humid as Norway and so Sweden has greater area devoted to agriculture. Sweden has larger quantity of iron ore than Norway. The streams at Sweden are less swift than those of Norway. Sweden has a smaller area of unproductive land. The population is more than double that of Norway. Sweden has lesser rainfall than Norway.

The extent of Sweden is 4,49,964 sq.kms. and her population is 8.3 millions. Forests, waterpower and iron ore are the three main natural resources of the country.

About 70% of the working population are in agriculture, foresting and fisheries. Agriculture is concentrated in the southern region. The principal agricultural crops are oats, wheat, rye, barley and potatoes. Farms are small and me–

chanisation is being encouraged. The country also has a large number of dairy cattle. Dairy produce accounts for about 30% of farming output.

Half of the country is covered under forests. It provides timber, fuel and tar. The country is one of the leading producers and exporters of timber, woodpulp, paper, newsprint, cellulose and matches.

Like Norway, Sweden is also rich in water power resources. She is rich in mineral resources too. There are large deposits of iron ore. Sweden accounts for some 5% of world iron ore production. Most of these iron ores are exported during winter months through Narvik, which is an icefree port in Norway. Narvik is near to the iron fields of Sweden and also connected with railways.

The country produces motor cars, motor trucks and merchant vessels. Swedish furniture, porcelain and glass have an international reputation.

'Stockholm' is the capital city of Sweden. It is a centre of art, learning and manufactures.

QUESTIONS

I. Fill in the blanks.

1. The 'Green gold' of Finland refers to its———.
2. The capital city of Denmark is ———.
3. The other name for Holland is———.
4. The capital city of Holland is ———.
5. The densest country of Europe is ———.
6. The city where diamond cutting is done in Belgium is ———.
7. The Granary of France is———.
8. The capital city of Sweden is———.

XI. Answer the following questions briefly.

1. How many natural divisions does Europe have ? What are they ?
2. Explain the position of Finland.
3. Which is called as 'The country of thousand Lakes ? Why is it so called ?
4. Mention the three land forms of Holland.
5. What are 'polders' ? Mention their uses.
6. What are 'dikes' ?
7. What are the important industries of Belgium ?
8. Mention the important rivers of France.
9. Which is the capital city of France ? Explain its special features.
10. What are the countries included in British Isles ?
11. Why are the seashores of British Isles not freezing even in winters ?
12. What are the minerals available in United Kingdom ?
13. Write a brief note about London.
14. Mention the countries of Scandinavian Peninsula.
15. Which is called the 'Land of the Midnight Sun' ? Why is it so called ?
16. What are fiords ? Where do you find these fiords ?
17. Why most of the iron ores of Sweden are exported through the port of Narvik during winter months ?
18. 'Though the Northern portion of Norway is actually within the Artic circle, the ports of the country are not frozen during winter'—Why ?

19. What are the chief occupations of Swedish people ?

20. How do the occupations of the Norwegians related to the geographical conditions of the country ?

III. **Answer the following questions elaborately.**

1. What are the facilities available in Denmark for the development of dairying industry ?

2. Describe the location and position of British Isles.

3. Why are fishing industries famous in Great Britain ?

4. Compare Norway with Sweden in all aspects.

5. What are the factors advantageous for the production of electricity in Norway ?

6. Compare the farming activities of France with those of Denmark and explain why they differ.

Practical

1. Draw the continent of Europe with the political divisions and mark the capitals and important industrial centres of Europe.

2. Draw the map of British Isles and mark in it the coal-fields, the fishing centres and chief ship-building centres.

12. THE SOUTH EUROPE— THE MEDITERRANEAN LANDS

The Southern Europe consists of three major Peninsulas penetrating deep into the Mediterranean Sea. They are the Iberian Peninsula on the west, the Italian Peninsula at the centre and the Greek Peninsula on the east.

In all these Peninsulas the climatic conditions are almost uniform; typical Mediterranean climate prevails in the western part of the region. The eastern region is warmer in summer and colder in winter. The climate is highly suitable for growing fruits.

THE IBERIAN PENINSULA - SPAIN AND PORTUGAL

The strait of Gibralter separates the Iberian Peninsula from the African continent. It is surrounded by sea on three

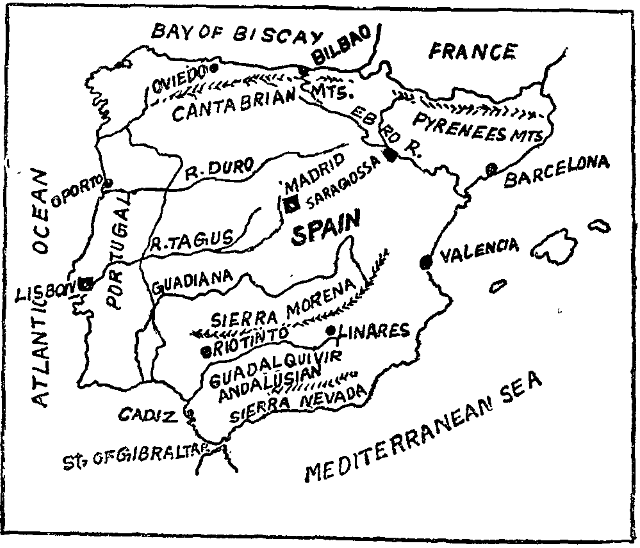

Fig. 35. The Iberian Peninsula—Spain and Portugal

sides and the mountain-Pyrenees separates it from the rest of Europe. The Iberian Peninsula comprises of two Political divisions *viz.* Spain and Portugal.

Spain

Of the political divisions, Spain occupies major portion of the Peninsula and it has a land area of 5,04,782 sq. kms. The total population of the country is 37.1 millions.

Based on relief and climate, Spain can be divided into 5 natural regions. They are : (1) The northern mountains, (2) The Plateau, (3) The Andalusian Plains, (4) The Aragon Plains, and (5) the Mediterranean border lands.

Because of the mild climate and heavy rainfall, the northern mountains are covered with forests. Agriculture is centred in the valleys. The narrow coastal region of this area, known as Rasa is important for cattle rearing and apple orchards. Oak and beech are the trees very common here, which are an important source of timber and of cork. The 'core' of Spain is a plateau of ancient rocks known as the Meseta. Much of the Meseta is grassy steppe. The most wide spread occupation of the people of the plateau is sheep rearing.

The plains of Andalusia are well watered. The soil, mainly alluvial, is very fertile. Large crops of oranges and olives are grown here. Seville and Cordova are the two important cities of the plain. They contain beautiful examples of Moorish architecture.

The plain of Aragon is drained by the river Ebro. The rainfall here is scanty since it is sheltered on all sides by mountains from the rain-bearing winds.

The Mediterranean border lands enjoy Mediterranean type of climate. In the Southern spain the major products are oranges, olives, grapes etc. The chief town here is Palma.

The mineral resources available in Spain are coal and lignite, iron ore and sulphur. Spain now leads the world in production of mercury.

The coastal low lands of Catabonia is one of the most important parts of Spain. It is an important industrial region. The textile, chemical and metallurgical industries are located at Barcelona. 'Madrid' is the present capital city of Spain. It is situated in dry and unproductive region on a small tributary of the river Tagus. Seville, one of the principal cities ever since the days of the Roman Empire, is a river port of Spain. Wine cultivation, fruit gardening, sheep rearing and fishing are the main occupations of the people.

Portugal

Portugal lies to the west of the Spanish Meseta. Bounded by the Atlantic ocean, it has more equable temperatures and heavier rainfall than Spanish Plateau. In the north, Portugal is mountainous. Central Portugal is a plateau region and the Southern Portugal is relatively a low land area.

With abundant rainfall, the north Portugal has extensive forests of Cork Oak. The Central Portugal is an area of grassland. The plateau region is sparsely populated while the coastal lowlands are densely populated. The lowland is enjoying typical Mediterranean climate. The country has a land area of 92,082 sq. kms. with a total population of 9.8 millions.

The Tagus Valley, in Central Portugal is the best farming region of the country. It produces corn, wheat, olives and fruits including grapes.

The agricultural products of the country are mainly potatoes, wheat, maize and some rice. Its important fruit

crops are grapes, figs, almonds and olives. Portugal is the leading producer of cork. Cork is the chief export of Portugal which produces half the world's supply.

The country is also noted for manufacturing glassware, pottery, porcelain tiles, wine and olive oil.

Lisbon, situated on the estuary of the Tagus, is the capital and chief airport of Portugal. The chief industries, mainly textiles are centred in Lisbon. Oporto, another important port of Portugal, exports mainly wine, apples and oranges.

Italy

Italy is situated at the centre of the Mediterranean Europe. From the point of view of historical development, Italy is an old country, illustrious as the central realm of the Roman Empire. Geographically, Italy is a land of contrasts. It consists of two divisions *viz.* Northern Italy and Southern Italy.

Northern Italy consists of plains and mountains. It enjoys continental climate. Southern Italy is a long narrow peninsula enjoying Mediterranean climate.

The total land area of Italy is 3,01,225 sq. kms. It has a population of 56.7 millions (1978) with an average density of 184 persons per sq. km.

The fertile plain of Lombardy in the north of Italy is drained by the river Po. It is an important region with alluvial soil. This region produces all the rice grown in the country and large quantity of wheat. It also produces maize, sugar beet and potatoes. Italy is also a large producer of tomatoes, olives, apples, peaches and grapes.

Milan is the largest city of Lombardy plain and the whole of modern Italy. Metallurgy, chemicals, electronics and textiles are the major industries of the region.

Venice which lies to the north of the Po delta, is an important port of North Italy. It is the greatest trading centre of Medieval Europe.

The Piedmont region in the west offers good grazing ground for cattle and sheep. It also provides a quarter of Italy's water power.

Fig. 36. Italy

In very many ways Southern Italy contrasts sharply with Northern Italy. Southern Itlay lies outside the industrial

development of Northern Italy. Such industries as do exist are those based on agricultural products such as the manufacture of olive oil, wine and dry fruits. Genoa is a leading port of Italy. It is also a centre of ship yards and engineering industries.

Rome. the capital of modern Italy, is one of the oldest cities in the world. Rome grew up around seven low hills in the Tiber plain. So, it is called as 'the City of Seven Hills' Within Rome is the Vatican City, the chief centre of the Roman Catholic Faith.

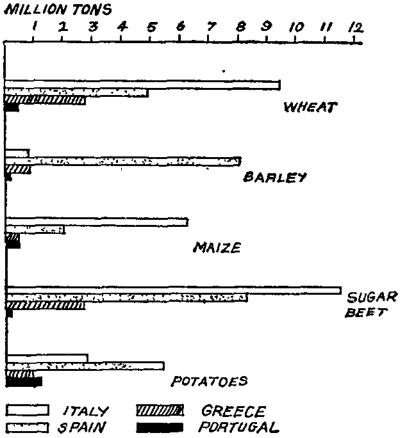

Fig. 37. Agricultural products of Southern Europe

Florence is the chief city of the Arno Basin. It has important woollen industries. It is also a famous centre of art.

The western side of the Peninsula is that around Naples, above which, rises the well-known Volcano Vesuvius. Naples is the chief industrial centre of Peninsular Italy. It is the second port of the country.

Sicily is the largest island, south of Italy, in the Mediterranean sea. Dominating the eastern side of Sicily are the two Volcanic masses of Mount Lauro and Mount Etna. Mount Etna is one of the largest active volcanoes of the world. Because of the great fertility of the soil, the slopes of Etna are cultivated. This is the most important area in Italy for the production of citrus fruits.

Greece

Greece is a country of mountains, peninsulas and islands. About two-thirds of population are peasants and farmers cultivating small holdings. But no part of the country is more than 125 k.m. from the sea. Even today the Greeks are great sailors and traders. It has the total land area of 1,31,944 sq.kms. with a population of 9.4 millions. Nearly four fifth of its land area is mountainous, and the remaining one fifth of the area is utilised for cultivation. Agriculture is the base industry of the national economy of Greece. The main agricultural crops are wheat, maize, rice, tobacco and cotton. The Macedonian region specialises in tobacco. Greece is also an important producer of olives, peaches, apples, oranges and lemons.

The uplands are used mainly for the grazing of herds of sheep and goats.

Fig. 38. Greece

The islands of Greece include the Ionian Islands of the west coast and Crete. It produces typical Mediterranean crops like olives, vine etc. Many of the people are fishermen.

Athens, once an intellectual and the political centre of Europe, is the capital of Greece. It is situated in the midst of hills. Even today the old ruins of ancient Greek sculpture dominate the landscape of Athens. It has become a leading industrial centre of today.

Mineral resources are intensively exploited. The electricity output of the country was doubled between 1966 and 1971.

The principal trading partners of Greece are Federal Republic of Germany, U. S. A., Italy and Saudi Arabia.

Albania

Albania is a small country. It is situated on the eastern side of the Adriatic sea between Yugoslovia and Greece. It has a land area of 28,748 sq. kms. with a population of 2.6 millions.

Albania which was for many years under the control of Turkey and regained its independence after the Balkan War in 1913.

The coastal plains have a Mediterranean climate, and olives, vines and mulberries are grown. The interior is the region of mountains where communication is extremely difficult.

In spite of limited arable land, Albania is an agricultural country. The chief agricultural products are wheat and maize. Besides, commercial crops like tobacco, cotton and sugar beet are grown.

Though it is a backward country, in recent years much emphasis is laid on oil refining and manufacture of metals, cement and textiles.

'Tirana' is the capital city of the country.

QUESTIONS

I. **Fill in the blanks.**

1. The strait which devides Iberian Peninsula from Africa is———.
2. Spain tops the world in the production of————.
3. Portugal is famous for———production.
4. The capital city of Portugal is———.

5. The world famous volcano in South Italy is —— .

II. Answer the following questions briefly.

1. Mention the countries which comprise of Iberian Peninsula.
2. What are the minerals found in Spain ?
3. Portugal has got better climatic conditions. How ?
4. Write short-notes on Lombardy plain.
5. Which is called 'The city of Seven Hills' ? Why is it called so ?
6. Name the Volcanoes which are in Sicily.
7. Why are the Greeks considered to be good mariners ?
8. What is Mediterranean climate ?
9. Mention the Peninsulas which are in Mediterranean Sea.

III. Answer the following questions elaborately.

1. Compare Spain with Portugal in all aspects.
2. Compare South Italy with North Italy in all aspects.
3. Describe the life of the people in Albania.
4. Greece was well suited to the development of city-states. Give reasons.
5. Give a brief but pointed account of agriculture in the Mediterranean Europe.

Practical.

Indicate the Mediterranian Countries in the map of Europe and mention their capitals.

13. CENTRAL EUROPE

The central Europe comprises of West Germany and East Germany, Switzerland and Austria. The region consists of both lowland and high mountains. Climatically it enjoys warm summers and cold winters. Though there is rainfall in all seasons, it is more in summer. It is a land of transition from the oceanic climate of the Western countries to the modified continental climate of the Eastern countries. The old mountains are rich in minerals. The forests and pastures of this region promote lumbering and pastoral industries respectively.

Germany

Germany attained its national unity in 1871. It strived hard for nearly forty years and became one of the most highly industrialised countries in the world. That was possible because of her mineral wealth, especially iron and coal. During the World War I, she lost her rich iron ore field of Lorraine to France. In the World War II, she lost the important Silesian coalfield to U. S. S. R. The whole of Germany was occupied by the Allies. East Germany and a part of Berlin were controlled by U. S. S. R. The West Germany and a large part of the city Berlin were under the control of other Allies. Later on East Germany became the German Democratic Republic under the control of U. S. S. R. West Germany became independent Federal German Republic. Its capital is Bonn.

West Germany and Berlin : West Germany or the Federal German Republic lies in the heart of Europe. Its neighbours to the west are the Netherlands, Belgium, Luxembourg and France; to the south Switzerland and Austria, to the east Czechoslovakia and German Democratic Republic and to the

north by Denmark. Its climate is temperate with an average annual temperature of 9°C (48°F), although there are conside-

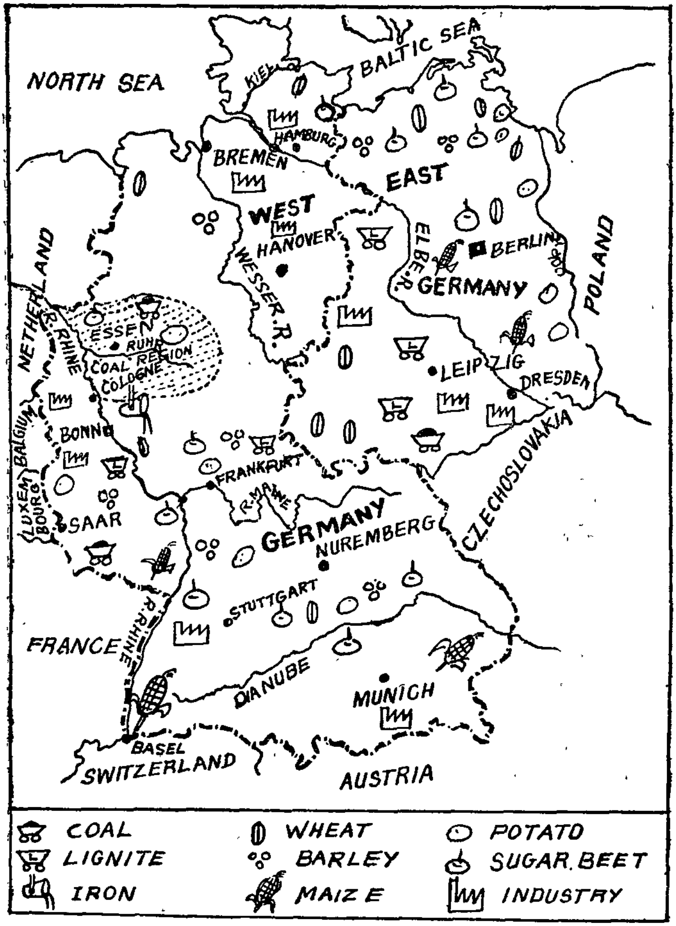

Fig. 39. East-West Germany—Economic activities

rable variations between the Northern German lowlands and the Bavarian Alps.

In 1978, its total population was 61.3 million people, with an average density of 247 per sq.k,m, It has a total land area of 2,48,651 sq.km.

Cultivation is carried out in nearly 35% of the total land area. About 30% of the area is under forests. Agricultural production has been increased considerably since World War II. The major agricultural crops are wheat, barley, rye, oats, sugar beet and potatoes. The Rhine, the Elbe and the Danube are the important rivers of West Germany. About 23% of the land area is under pastures So, animal husbandry has also become an important agricultural activity of the country. From the 30% of the forest area considerable amount of timber, wood pulp, paper and newsprint are also produced.

The biggest coal field of Europe is situated in West Germany at Ruhr. The country also possesses limited reserves of iron. The country ranks fourth in the world, in the production of iron and steel. It stands in the forefront in chemical industries. Mechanical engineering products, automobiles, chemicals, iron and steel, scientific equipments and textiles are the major products of West Germany.

The capital city of West Germany is 'Bonn'. Hamburg and Munich are other important cities of the country.

Berlin was the old capital of United Germany. After World War II, the city was divided into East Berlin and West Berlin. West Berlin belongs to West Germany. It is the centre for electrical and precision instrument industries. East Berlin belongs to the German Democratic Republic.

East Germany : East Germany or the German Democratic Republic is bounded to the north by the Baltic sea. Federal Republic Germany forms the west, south west and south boundary of the country. It is bounded by Czechoslovakia in the south east and Poland in the east. The climate is warm in summer and cold in winter.

East Germany has a total land area of 1,08,179 sq. km. It has a population of 16.8 million people. Agriculture is being carried out in about 47% of the total land area. The main agricultural crops of the country are rye, wheat, barley, oats, sugar beet and potatoes. Animal husbandry is also an important agricultural activity.

The country's only natural resource is lignite. It supplies over 80% of the country's basic energy. Other natural resources available in the country are potash and gypsum. It produces crude steel, coke and fertilizers in large quantities. The economy of the country is closely linked with the Soviet Union. Oil is being supplied to the country through pipe lines by the U.S.S.R.

In terms of production German Democratic Republic is one of the leading industrial countries of the world. In its recent Five Year Plan emphais has been laid on the quality products such as optical goods, electronic apparatus and precision machinery. The machines, chemical and heavy engineering products are the leading exports of the country.

'East Berlin' is the capital city of German Democratic Republic.

Switzerland

Switzerland is a mountainous country. The Alps mountains spread on the South, South east and Central parts of the country. The Jura mountains are on the North-western part of the country. Mont Blank, Matter Horn and Mont Rosa are the important peaks of the Alps. This country is surrounded by France, Italy, Austria and Germany. It is not only a land of mountain peaks but also a land with passes, glaciers and lakes It is a country with political neutrality. It has no political ties with other countries. That is why Geneva, a city of Switzerland, has been chosen as the headquarters of various international organisations.

Switzerland has a total area of 41,293 sq.kms. The population of the country is 6.3 million. There is no Swiss language and no established State religion. About 74% of the people speak German, 20% French, and 4% of the people speak Italian language and the rest other languages.

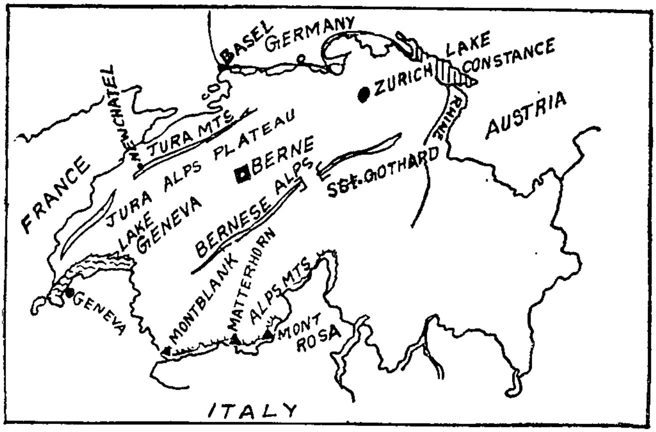

Fig. 40. Switzerland

About 10% of the land is under permanent crops. The principal agricultural crops of the country are wheat, barley, rye, oats and potatoes. An intensive mixed agriculture is practised with an emphasis on dairying. About 50% of the farmland is permanent pasture. The country manufactures cheese, butter, milk, chocolate and condensed milk much of which is exported. The cheese of Switzerland is world famous.

The country is lack of coal and raw materials. It's great resource is hydro-electric power, which is aptly described as 'white coal.' The industrial towns of Switzerland are using electricity for power and are characterised by their cleanliness and absence of smoke. Zurich, Geneva and Bern are the important towns of Switzerland. Zurich is the centre for silk and cotton textile industries. Diamond cutting industry is

famous at Geneva. 'Bern' is the capital city of Switzerland. The country also specialises in the production of electric goods, batteries etc.

The high percentage of mountains and the unproductiveness of large areas have compelled the Swiss people to develop occupations other than farming. They have therefore concentrated on the manufacture of articles, requiring much skill and relatively little raw materials *e.g.* watch making. Tourist industry, forestry and farming contribute more for the economic development of the country. The scenery of the Alps with their high peaks, deep glaciated valleys, forested slopes, water falls, glaciers and lakes attract large number of visitors each year. So Switzerland is called as the 'Play ground of Europe'.

Austria

Austria is a largely mountainous country. It is surrounded by Italy, Yugoslavia, Hungary, Czechoslovakia and Germany. It has a land area of 83,853 sq.kms.

About one fifth of its land area is under cultivation. The chief agricultural crops of the country are wheat, barley, rye and oats.

Forests and pastures cover more than half of the total land area. These forests provide raw materials for wood pulp, paper and timber industries.

Stock raising and dairying are the traditional industries of the country. Considerable quantities of meat, butter and cheese are produced.

The country has rich reserves of minerals, such as iron-ore, magnesite, lead, zinc and copper. Although agriculture is the largest single industry, there are important industries such as the manufacture of fertilizers, paper plastics, and motor vehicles. Textile is the next important industry.

Jwellery, stone cutting, pottery and wood carving are the major handicrafts of Austria. Austria produces more hydro-electricity.

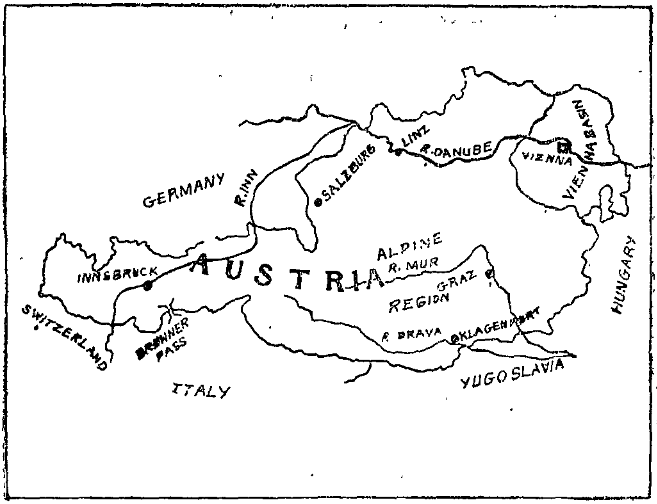

Fig. 41. Austria

'Vienna' is the capital city of Austria. It is an industrial centre for engineering, textiles, electrical goods and food processing. Nearly a quarter of the country's population is living here.

The trading partners of Austria are the Federal German Republic, Italy, U.S.A. and Great Britain. One third of its exports form wood, wood pulp and paper. Iron, steel goods and machinery form another two third of its exports.

QUESTIONS

I. Fill in the blanks.

1. The capital city of Austria is ——— .

2. The 'Granary of Europe' is ———.

3. The most important single natural resource of East Germany is ———.

4. ——— is called as 'white coal'.

II. **Answer the following questions briefly.**

1. What are the peaks of Jura Mountains ?

2. Which is called 'The Playground of Europe'? Why ?

3. Which is the country that derives large income through tourism ? Mention the spots of tourist attraction in that country.

4. Why are the Swiss people engaged themselves in Small-scale Industries ?

III. **Answer the following questions elaborately.**

1. Write an essay about the mineral resources of West Germany.

2. Compare West Germany with East Germany in all respects.

3. Write an essay about the mineral resources of East Germany.

4. Describe the physical features of Switzerland.

5. What are the chief occupations of Austrians ?

14. EASTERN EUROPE

The Eastern Europe comprises of the countries Poland, Czechoslovakia, Hungary, Rumania, Bulgaria, Yugoslavia and U.S.S.R. The region is far away from the moderating climate of sea and is nearer to the semi-desert region. Therefore it enjoys extremes of temperature. Summers are hot and winters are very cold.

Poland

The Polish Republic is bounded to the north by Baltic Sea, to the West by the German Democratic Republic, to the South by Czechoslovakia and to the east by the U.S.S.R. Climatically, the country has more continental type of climate.

Poland has a land area of 3,12,677 sq.kms. with a total population of 35 million people. Nearly half of the land area is under cultivation. About 14% is left for pasture and 22% of the land is covered under forests.

Fig. 42. Poland

It is one of the world's leading agricultural nations. The chief agricultural crops are rye, oats, wheat, barley and potatoes. The surplus potatoes of the country is used for manufacture of alcohol. Livestock production is also an important sector of agriculture. Meat and meat-products make significant contribution to Polish exports.

Poland has immense reserves of coal and lignite. The industrial development of the country depends only on these resources. Upper Silesia in the southern plateau is the leading mining and manufacturing region. Silesia also has deposits of iron, lead, zinc ores and natural gas. The country is rich in zinc and uranium. There are extensive salt deposits to the south of Cracow, the chief industrial area. These have led to the development of chemical industries.

Lodz, the 'Manchester of Poland', is the centre for textiles and engineering industries. 'Warsaw', the capital city of Poland is situated on the Vistula. Like all capital cities, it has a large number of industries like sugar refining; flour milling and engineering. The country is the fourth largest exporter of ships. The other main exports of the country are coal, steel and clothing.

Czechoslovakia

Czechoslovakia is a Socialistic Republic country. It lies amidst Poland to the north, the German Democratic Republic to the north-west, the Federal Republic of Germany in the west, Austria to the south-west, Hungary to the south-east and the U.S.S.R. in the extreme east.

The State has the land area of 1,27,881 sq.kms. with a population of 15 million people. It composes of two main population groups, the Czechs (64 3% of the total population) and the Slovaks (30% of the total population). The climate is continental with warm summers and cold winters.

The country is endowed with agricultural, forest and mineral resources. Agriculture has been collectivized and 93% of the land is under agricultural co-operatives. Important crops grown are wheat, barley, potatoes and sugar-beet. Bohemia is an intensively cultivated part of the country. About 35% of the land area is covered under forests. The country exports timber and produces wood pulp and newsprint.

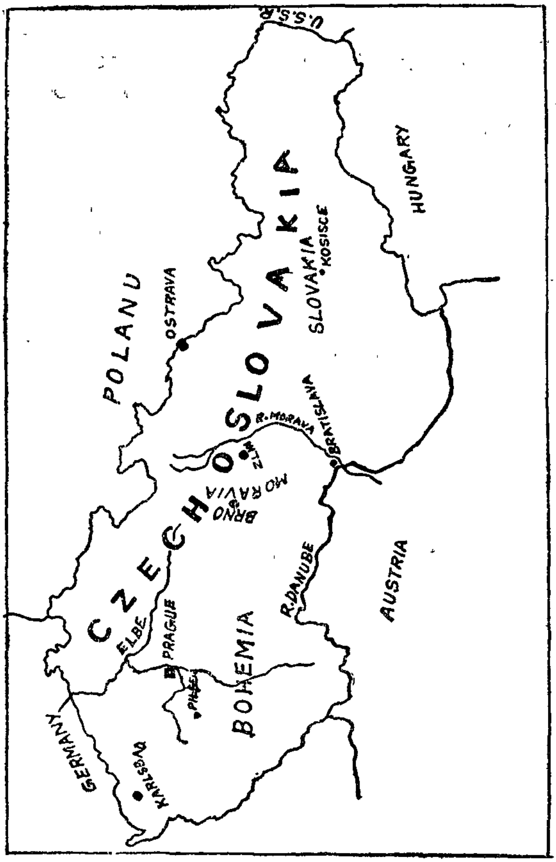

Fig. 43. Czechoslovakia

The country has fairly good amount of mineral resources especially coal. It has also some of the richest uranium deposits. It is a highly industrial country, although it depends upon the U.S.S.R. for many raw materials.

It is an important engineering nation with a considerable output of motor cars and cycles. Other important industries of the country are glass, chemicals, ceramics and textiles. In the recent Five Year Plan of the country, priority is being given to the development of industry, particularly the engineering sector.

'Prague' (Praha) is the capital city of Czechoslovakia. It is also an industrial centre for textiles chemicals, paper, glass and machinery.

Brno is another important industrial city of the country. It is a centre for textiles and the famous Bren-machine-gun factory. Gottwaldov is the original centre of the famous concern of the Bata Shoe Company.

Hungary

Hungary is bounded to the north by Czechoslovakia, to the east by the U.S.S.R. and Rumania, to the south by Yugoslavia, and to the west by Austria. The country occupies the middle Danube Basin. Till recently, Hungary was considered to be the granary of Europe. The country enjoys continental climate with little influence of the oceanic climate of the west and the Mediterranean climate of the south. The average annual rainfall of the country is 60 centimeters.

Hungary has the total land area of 93,033 sq. km. with a total population of 10·7 million people. About 60% of the total land area has been brought under cultivation. Wheat is the principal crop of the country. Besides, maize, barley, rice, tobacco, sugar beet and potatoes are also grown.

Wine, beer, sugar and flour-milling are the important food processing industries of Hungary.

Since World War II, industry has become the largest sector in the economy of Hungary. Now it is an exporter of engineering products, machine tools, buses, electronic and

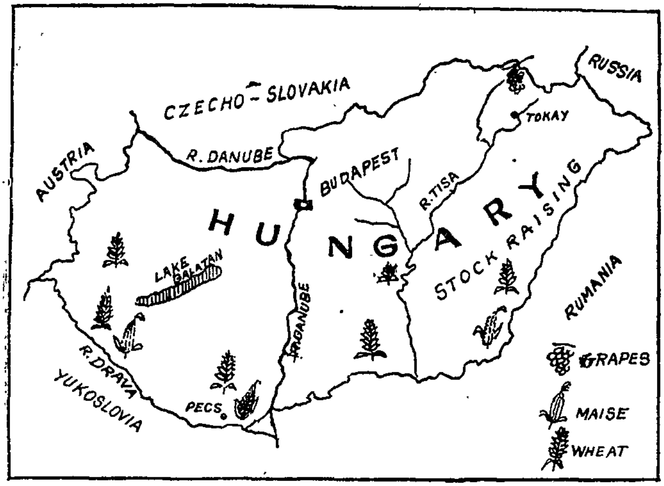

Fig. 44. Hungary

other instruments. Principal imports of the country are crude oil, iron ore, copper and raw materials for plastic industry, chemical fibres and artificial fertilizers.

'Budapest' is the capital city of Hungary. It consists of three cities *viz.* Buda, Old Buda and Pest. It is a leading industrial centre for metallurgical, textile, food processing and river boat building.

Rumania

Rumania standing on the Black Sea, has an area of 2,37,500 sq.km. with a total population of 21.8 millions. Rumania is a country rich in resources but backward in

development. Rumania has continental climate The average annual rainfall is about 65 centimetres.

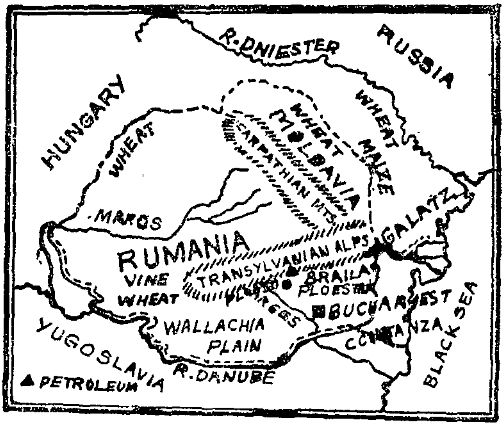

Fig. 45. Rumania

About [illegible] of the total land area is under cultivation. The soil is very fertile and agriculture is the chief means of livelihood, but yields are low, mainly because of primitive farming. Many of the fields are still sown and harvested by hand. More than 85% of the cultivated land is used for the production of maize, wheat and sugar beet. Moldavia is the 'Granary of South eastern Europe', with wheat and oil seeds as the main agricultural commodities. The foothills of the Carpathians have fruit gardens with plum, cherry and apple.

Rumania is a leading producer of petroleum in Europe, excluding Soviet Union. In the production of natural gas it stood next to the U.S A., U.S.S.R. and Canada. Important industries of the country are iron and steel, machine building, chemicals and fertilizers, food processing and textiles. The heavy metallurgical industries are located around Reista, the 'Steel town' of Rumania.

'Bucharest' is the capital city of Rumania.

Bulgaria

Bulgaria, in the eastern Balkans, is bounded to the north by Rumania, and to the east by the Black Sea. Turkey and

Greece lie to the south and Yugoslavia to the west. The climate is one of fairly sharp contrasts between winter and summer.

The total land area of Bulgaria is 1,10,912 sq. kms. It has a population of 8.8 millions with an average density of 79 persons per sq. km.

Fig. 46. Bulgaria—Natural Divisions.

(1) Balkan mountains and Northern lowlands.
(2) The central lowlands.
(3) South-western highlands.

It is a very fertile country. Its agriculture has been organised on a large scale co-operative and mechanised basis. Nearly two third of the total land area is sown in grain. The chief agricultural crops are wheat, maize, beet and barley. Agricultural production of the country increased by 30% between 1970 and 1976.

Coal, iron-ore, copper, lead and zinc are mined in Bulgaria. Lignite is the most important mineral resource of the country. Some oil is also extracted on the Black sea coast. Engineering, chemical fertilizers and metallurgical industries have been greatly developed in the country. Industrial output has been increased by 55% between 1961 and 1976. The recent Five Year Plan of the country envisages a 55–60% increase in industrial production and a 20% increase in agricultural produce. Nearly 75% of its budget is being spent on further modernisation and reconstruction of industry. 'Sofia' is the capital city of Bulgaria.

Yugoslavia

Yugoslavia has a long western coastline on the Adriatic sea. It is bounded to the north by Italy, Austria and Hungary, by Rumania and Bulgaria to the east, with Greece and Albania to the south. The climate is continental in the hilly interior and Mediterranean on the coast with a steady rainfall throughout the year.

The country has a population of 21.9 million people. The people of the country composed of Serbs, Croats, Slovens, Macedonians and Montenegrins. This is otherwise called as Multi-racial, Multi-lingual and Multi-religious state.

It has a total land area of 2,25,804 sq.kms. Nearly one third of the total land area is under cultivation. The Danube lowlands with fertile black soils are rich agricultural region of the Balkan Peninsula Macedonia with its warm climate is a region known for its quality tobacco crops. The chief

agricultural crops are wheat, maize, oats, sugar beet, sunflower and potatoes. Animal husbandry is also an important activity of the people.

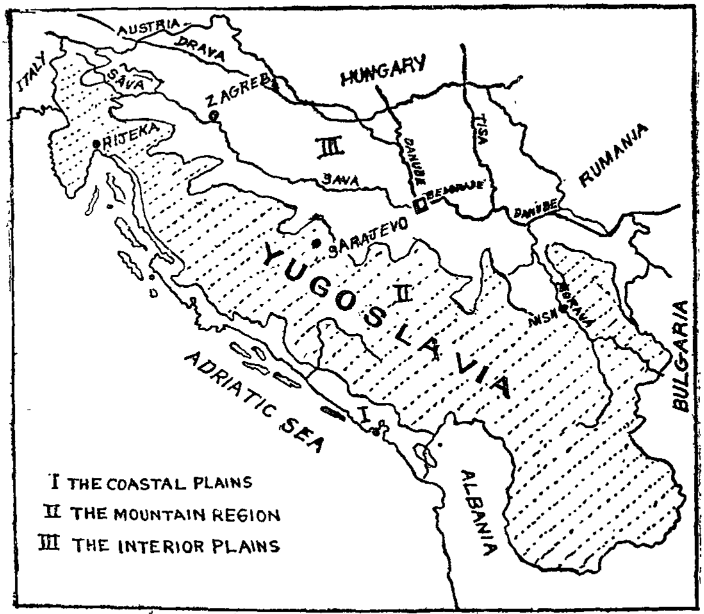

Fig. 47. Yugoslavia

Nearly a third of the total land area is under forests. It produces timber and wood pulp People who live in coastal region, Dalmatia, engaged themselves in farming, fishing and horticulture. 'Belgrade' is the capital city of Yugoslavia

The U.S S.R.

The Union of Soviet Socialist Republic (U.S S.R.) commonly known as the Soviet Union is the largest country of the world. It is one of the two most powerful nations of our times. It extends from the Baltic to the Pacific ocean and for 4,800 km. from the North to South. Its western frontier running from the Arctic ocean in the north to the Black sea in the

south, is bordered by Norway, Finland, Poland, Czechoslovakia, Hungary, and Rumania. The southern frontier running from the west to east, is bordered by Turkey, Iran, Afghanistan, China, Mongolia and Korea. Throughout the whole length of her coast line, Russia is handicapped by scarcity of ice-free ports. Only Petsamo and Murmansk are the ports free from icebound during winter months.

In spite of its huge size, its relief is remarkably mountainous. The climate is continental and has extreme variations. In winter, temperatures can fall to —94°F (−70°C) in the north east Siberia and in summer it can reach 122°F (50°C) in Central Asia, part of which is desert.

Fig. 48. Europe—Russia

The total area of the country is 22.4 million sq.kms. Less than one tenth of this area is under crops and about one fifth is used as pasture. Another two-fifth is forest. Most of the remainder is tundra, mountain or desert. Hence, the average density of population is very low, 11 persons per sq. km.

In 1978 the population of U. S. S. R. was 262 millions. Just under half the population lives in the towns. Vast area of Eastern Siberia are almost uninhabited and only along the Trans-Siberian railway, does the density rise.

The U.S.S.R contains many different races and peoples but by far the most important are the East Slavs, who constitute more than 75% of the total, and they occupy most of European Russia.

Till 1920, Russia was one of the backward countries of the world. Her agriculture was primitive and her mining and manufactures but little developed. It was only after the Bolshevik Revolution of 1917, the country visualised a turning point in her development. All land, all mines and industrial concerns became nationalised. Because of this it was able to work out the Five Year Plans for the development of the country. Within a space of about forty years, she achieved tremendous progress in the field of agriculture, scientific research, industry and general economy of the country.

The country leads the world in the production of wheat, rye and barley. It is also a leading producer of sugar beet potato and sunflower seed. Cultivation and harvesting is entirely mechanised, involving the use of nearly one million tractors and half a million combine harvesters. Ukraine is one of the leading wheat producing regions in the world. Other important wheat regions are the north Caucasus, Western Siberia and the Urals.

The Soviet Union is equally rich in its minerals. It claims to possess the world's largest reserves of gold, iron and manganese. It is the world leader in petroleum production, iron and steel, railway transport, and coal mining industry accounts for more than 50% of the national income Heavy industry accounts for more than two third of industrial production. In 1975, the U.S.S.R. accounted for about 20% of the world's gross industrial output. There are also extensive deposits of oil, natural gas and coal.

The Volga, the Dnieper, the Dniester, the Dvina, the Don and the Pechora are the important Russian rivers. The U.S.S.R. has paid much attention to irrigation. Projects on these rivers are being undertaken for the production of hydro electricity, irrigation and river navigation. The country is the second greatest producer of Electric Power next to Congo in Africa.

Russia consists of Federation of fifteen Republics. 'Moscow' is the capital of 'all the Russias'. It is one of the 15 Republics

that make up the Soviet Union. It has a population of about 7 million people. It is the political, industrial, scientific and cultural centre of Russia.

About 10% of the country's industrial output comes from Moscow. The main manufactures of Moscow include steel, machinery, motor vehicles, aeroplanes, chemicals, wood and paper products, leather products and textiles

Leningrad, Tashkent, Baku, Kharkov are the other important cities of U.S.S.R.

QUESTIONS

I. Fill in the blanks.

1. The 'Steel Town' of Rumania refers to ——— .
2. The capital city of Yugoslavia is ———.
3. The unfreezing ports on the north of Soviet Russia are ——— and———.
4. A leading producer of oil and gas in Europe is———.
5. The intensive cultivated part of Czechoslovakia is ———.

II. Answer the following questions briefly.

1. Which is the 'Manchester' of Poland? Why is it called so?
2. Mention the important industries of Hungary.
3. Mention the important crops of Hungary.
4. Yugoslavia, although on the Mediterranian Sea, does not enjoy a typical Mediterranean climate. Why?
5. What are the chief agricultural crops of Bulgaria?
6. What are the important industries of Bulgaria?
7. What is Iron Gate?

8. Though Soviet Russia has a long coast line, it has got no good ports. Give reasons.
9. What are the rivers of Russia ? Mention the longest river of the country.
10. Write a short note on Moscow.
11. Mention the European countries which mainly depend upon the electricity for their industries.

III. Answer the following questions elaborately.

1. Explain about the natural resources of Poland.
2. What do you know about the farming of Czechoslovakia ?
3. Describe the industrial growth of Czechoslovakia.
4. What do you know about the farming of Bulgaria ?
5. Explain about the mineral resources of Bulgaria.
6. Describe the position of Yugoslavia.
7. Illustrate the mineral resources of Soviet Russia.
8. Why is Russia considered to be one of the powerful countries of the world ?
9. Describe how Russia has developed its agricultural sector.

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15. TRADE

EXPORTS AND IMPORTS—MAJOR PORTS

Domestic Trade and Foreign Trade

What does trade mean ? Trade means exchange of goods, wares or merchandise among people. This may be internal or external. Internal or Domestic trade refers to the exchange of goods within a country or a nation. External or International trade refers to the exchange of goods between two or more countries. It is also known as 'Foreign Trade'.

Imports and Exports

The countries which have inadequacy of goods and cannot produce at all due to certain geographical limitations, are getting the same from their neighbouring countries. This sort of getting things from other countries is called 'Import'. On the other hand, if countries having more production, used to sell the excess of their consumption to other needy countries. This sort of selling is called 'Export'.

Imports and exports are rapidly rising every year in the European Countries. The developed countries of Europe such as Federal Republic of Germany, France, the U.K., the Netherlands, Belgium, Luxembourg, Italy and U.S.S.R. predominate the World trade. The position of the Imports and Exports of these countries is given here under.

Imports and Exports
(In Million U. S. Dollars) In the World Trade)

	Country	Imports 1974	1978	Exports 1974—	1978
1.	Federal Republic of Germany	70124	121,250	90,590	141,750
2.	France	52992	81,720	45,852	79,290
3.	U. K.	54142	78,660	38,639	74,000
4.	The Netherlands	32629	53,760	32,810	50,100
5.	Belgium-Luxemburg	29918	48,360	28,328	48,810
6.	Italy	40924	56,370	30,253	55,960
7.	U.S.S.R.	24890	50,550	27,405	52,180

What do you learn from this table ? Federal Republic of Germany is the biggest European trading partner of the world, both in imports and exports. Federal Republic of Germany, France and U. K. were the three European biggest exporters and importers of the World in 1978. In Western European Countries the value of imports has increased by a big margin. The main reason is that these nations depend on imports of

crude petroleum from the Arab Countries. They also import foodgrains, petroleum products, beverages and raw materials. They export a variety of manufactured goods to Temperate and Tropical Countries.

Ports

The trade of a country depends upon the availability of ports. Because ports contribute a great deal to build the country's shipping trade. The main function of a sea port is loading and unloading of cargo. The growth and prosperity of a sea port mainly depend upon :

i. Its location and the fertility and productivity of its hinterland.

ii. Its connection with all other ports of the country.

iii. Provision for safe sheltering of ships against storms and waves, and,

iv. Availability of space for warehousing services and transport facilities.

Major Ports of Europe

The major ports of Europe are found on the north-western side of the Continent. The major ports are London, Liverpool, Cardiff, Dublin, Rotterdam, Hamburg and Marseilles and a few ports of U.S.S.R These ports have very productive hinterlands.

London

London is not only a great industrial city but also a famous port. It is the third largest urban agglomeration of the world, after Tokyo and New York. London port extends 80 k.m. inland to Teddington. More than 35% of the

foreign trade of Great Britain is handled by this port. The chief imports are food grains, petroleum, wool, timber and rubber. Exports include automobiles, trucks and machinery.

Liverpool

Liverpool is the second largest seaport in Great Britain. It is also a major industrial and commercial city in Lancashire. It imports mainly raw materials and exports the manufactures of Lancashire, the Midland and Yorkshire. It handles 20% of British food grain imports. It is the main shipping point for iron and steel machinery and manufactured goods of all types.

Cardiff

Cardiff is the capital and an important port of Wales. It is also an industrial centre. The main industries of this area are engineering, ship repairing, timber and food processing.

Dublin

Dublin is a very important port of Ireland. It is also the capital of the country. Two-thirds of the import and half of the export trade of the country is handled by this port. Its imports include coal, petroleum, timber, paper, food grains, fruits, steel and machinery. Exports are food stuffs, whisky, meat, poultry, potatoes and horses.

Rotterdam

Rotterdam is a transit port and a very important entrepot. This port is the largest in respect of cargo tonnage handled in the whole of Europe. The port is also connected with new waterway. Its hinterland extends far into Germany. Shipbuilding and manufacturing are the important industries of the

Hamburg

Hamburg is the most important port in the West-Germany. It is a great entrepot. The port is connected by inland waterways, roads and railways. It has also a huge ship-building yard.

Marseilles

Marseilles is an important port of France. It is free from silt. It is an important gateway of Northern France for the products of North Africa, Middle East and Far East. It imports foodgrains, sugar, coffee, spices, silk, and hides and skins. A large number of soap, vegetable oil, sugar and cement industries are located here

Leningrad

Leningrad is the chief port of the U.S.S.R. It is an industrial centre too. About 15% of the total industrial output of the country is produced by it. It exports foodgrains, timber, flax, fur, and linseed. Wool, machinery, cotton, coal, iron, tobacco, fruits, spices and fish are the important exports of this port.

Archangel and Murmansk

These are the important ports on Barents sea. Archangel primarily handles timber and Murmansk coal. Murmansk lies at a great distance from densely populated parts of the Soviet Union. However, it ships large quantities of lumber and fish.

Apart from these major ports, there are a number of ports in Europe which are minor in nature.

QUESTIONS

I. Fill in the blanks.

1. The European country which exports more commodities to foreign countries is ——— .
2. The European country which imports more from th foreign countries is ———.

II. Answer the following questions briefly.

1. What are 'Internal Trade' and 'Foreign Trade' ?
2. What do you mean by 'Exports' and 'Imports' ?
3. Export or Import, which should be more to a developing country ? Give reasons for your answer.
4. Which are the European countries that play a major role in World Trade ?
5. Mention any four major ports of Europe.
6. Where is Marseilles ? Explain its importance.

III. Answer the following questions elaborately.

1. What are the facilities needed for the development of a port ?
2. Mention the major commodities exported and imported through London, Liverpool, Dublin and Leningrad.

Practical

1. Draw the outline map of Europe and mark the major ports in it.
2. Prepare a Table showing the hinterland, exports and imports of any three ports of Europe.

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